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Denmark's Rovebeetles
or
The Danish Genera And Species Of
BEETLE FAMILY STAPHYLINIDAE

Published Under The Carlsberg Fund

Translated by Annette Henriksen

Copenhagen
Bianco Luno's Printing House
1914





13. L. pallidum Nordm.

(Nordm. Symb. 142; Erichs. Käf. Mk. Br. I, 509; Gen. Spec. Staph. 601; Kraatz Ins. D. II, 683; Thoms. Skand. Col. II, Muls. et Rey Brévip. 1878, 64; Ganglb. Käf. M. II, 515).

In regard to color closely allied to dilutum, but with darker, dull and much more densely punctated abdomen, also somewhat larger, with more scattered punctation of the head, and slenderer antennae, also with differently formed sex-characters in the ♂.

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Thorax brownish- or reddish-yellow, glistening; abdomen pitch-black or pitch-brown with lighter tip, dull, abdomen and elytra finely haired; legs reddish-yellow.

Head as broad as pronotum, narrowed anteriorly the sides with rather robust and scattered punctation, at middle with isolated punctation; eyes small; antennae rather slender, their middle joints longer than broad; pronotum as broad as elytra, oblong, with rather robust and sparse punctation, at middle—line smooth; elytra in the wingless form (typical form) shorter than pronotum, in the winged form (var. Jansoni Crotch) as long as pronotum, finely and not densely punctate; abdomen with extremely fine and extremely dense punctation. L. 5-6 mm.

In the ♂ the abdominal fourth ventral joint at middle feebly, the fifth more strongly, the sixth deeply grooved, and at tip acutely incised, each side of the groove is elongated into a sharp tip.

Distributed in North and Middle Europe, but everywhere rare; in this country it is very rare and local, heretofore found only in few places and then singly; vicinity of Copenhagen, in a gravel pit (Schjødte, Schlick),

Ørholms Common under stones (Løvendal), at Vejlsø Bugt and at Odense (N. P. Jørgensen).

81. Genus Medon Steph.

(Steph. Ill. Brit. V, 273; Thoms. Skand. Col. II, 205; Muls. et Rey Brévip. 1878, 119; Ganglb. Käf. M. II, 518. - Lithocharis Erichs. Käf. Mk. Br. I, 511; Gen. Spec. Staph. 610; Kraatz Ins. D. II, 710).

The body is narrow and rather uniformly broad; head most often as broad as pronotum and rounded-square, posteriorly with strong neck-forming constriction; the neck $\frac{1}{4}$ - $\frac{1}{3}$ as broad as the head; eyes small and very little protruding, temples long; antennae filiform; labrum broad, its fore-margin with two small, yet distinct teeth at middle, and between these slightly emarginate; by this, among other features, the genus is easily separated from Lathrobium.

Pronotum is almost square with rather straightly truncated foremargin, and parallel sides or feebly narrowing posteriorly; elytra posteriorly evenly truncated; abdomen tapering posteriorly; legs more or less slender, front-femora feebly or scarcely thickened, fore-tarsi either simple or not strongly dilated; hind-tarsal first joint somewhat elongate and longer than the second.

Of the, in Middle Europe, distributed species (about 20) 8 are heretofore found in Denmark. They live in rotting compost, under leaves, in alluvium, under stones etc. A few Medon larvae (et al of bicolor) are described by Muls. et Rey (Ann. Soc. Linn. 1886, 155, T. XXXIII).

1. Temples on ventral side of head almost contiguous (the head in our species noticeably broader than pronotum): 1. Subg. Medon s. str..2.
 - Temples on ventral side of head more or less broadly separated by a smooth or punctate interval.....4.
2. Hind tarsi slender, about as long as the tibiae. L. 6-7 mm.....
 - 1. M. castaneus Gravh.
- Hind tarsi much shorter than tibiae. Species smaller..... 3.
3. Pronotum with rather coarse, dense punctation with smooth middle-line. L. 4-5 mm. 2. M. brunneus Er.
 - Pronotum very finely punctate, with smooth, often less distinct middle-line. L. 3.5-4 mm.....3. M. ripicola Kr.
4. Interval of temples not punctate, and smooth, body glistening (head in our species as broad as pronotum): 2. Subg. Hypomedon Muls..... 5.
 - Interval of temples punctate; body dully glistening (head in our species hardly as broad as pronotum): 3. Subg. Pseudomedon Muls..7.
5. Elytra longer than pronotum..... 6.
 - Elytra only as long as, or a little shorter than pronotum. L. 3-3.5 mm..... 4. M. melanocephalus F.
6. Head in surface between punctures smooth. L. 4.5 mm: 5. M. bicolor Oliv.
 - Head in surface (suitably magnified) finely transversally aciculate. L. 3.5-4 mm..... 6. M. propinquus Bris.
7. Interval of temples as finely punctate as the finely punctate temples. Antennae, mouth-parts and legs brownish-red. L. 4 mm.:
 - 7. M. obsoletus Nordm.

- Interval of temples simple and much more coarsely punctated than the temples. Antennae, Mouth-parts and legs reddish-yellow.

L. 3.5-4 mm.8. M. obscurellus Er.

1. Subgenus Medon s. str.

1. M. castaneus Gravh.

(Gravh. Micr. 60; Erichs. Käf. Mk. Br. I, 512; Gen. Spec. Staph. 610; Kraatz Ins. D. II, 711; Thoms. Skand. Col. II, 205; Muls et Rey Brevip. 1878, 123; Ganglb. Käf. M. II, 519).

Our largest species, and besides this easily identified by slender legs and long hind tarsi.

Reddish-brown, very finely gray-haired, feebly glistening; head and abdomen pitch-brown or pitch-black; abdominal tip reddish-brown; antennae, mouth-parts and legs brownish red.

Head a little broader than pronotum and larger than same, oblong square, on sides and posteriorly with dense, and rather robust, at middle and anteriorly with scattered punctation; antennae long and slender, all joints longer than broad; pronotum somewhat narrower than elytra, and a little broader than long, narrowing posteriorly, with rather robust and very dense punctation, and with a narrow, smooth middle-line; elytra distinctly longer than pronotum, with fine and very dense scabrous punctation; abdomen especially densely and finely punctate; legs slender; hind tarsi about as long as tibiae. L. 6-7 mm.

In the ♂ the abdominal fifth ventral joint is broadly emarginate, and the sixth with acute angular incision.

Distributed in Middle Europe, very rare in this country; it is found

mostly on high sandy or gravelly ground (Copenhagen, Hillerød, Hornbaek, Tisvilde, Haraldsted; Randers, Vojens and other places), often

in humblebee's or mole's nests, is also found in Skaane (Thoms.), but seemingly not found any farther north. - The larvae are found in a mole's nest and reared by E. Rosenberg.

2. M. brunneus Er.

(Erichs. Käf. Mk. Br. I, 513; Gen Spec. Staph. 612; Kraatz Ins. D. II, 713; Thoms. Skand. Col. IX, 185; Muls et Rey Brévip. 1878, 129; Ganglb. Käf. M. II, 520).

Identified mainly by proportionately large, broad head, and by the robust and dense punctation of the thorax.

Reddish-brown, finely haired; head and abdomen rather dull, pronotum and elytra somewhat glistening; head most often pitch-black, abdomen pitch-brown or pitch-black with reddish-brown tip; antennae, mouth-parts and legs reddish-yellow.

The head is broader and larger than pronotum, with dense or very dense, coarse umbilicate punctation; antennae rather short, their next-last joints feebly transverse; pronotum hardly narrower than elytra, a little broader than long, feebly narrowing posteriorly, as coarsely, but not quite so densely punctated as the head, at middle-line almost smooth; elytra somewhat longer than pronotum, with rather dense and robust punctation; abdomen very finely and very densely punctated. L. 4-5 mm.

In the ♂ the abdominal fifth ventral joint with shallow, the sixth

with deeper emargination.

Distributed in Middle Europe; in this country most often under leaves and in touchwood stubs in mouse-nests, but as a whole very rare (Aarhus, Haderslev; Tommerup; Lethrabort, Sandfaldene in Møen). - It is found in Skaane (Thoms.), but seemingly not farther north.

3. M. ripicola Kr.

(Kraatz Stett. Ent. Zeitg. 1854, 127; Ins. D. II, 715; Thoms. Skand. Col. II, 206; Muls. et Rey Brévip. 1878, 141; Ganglb. Käf. M. II.522.-fuscus Muls. et Rey Brévip. 1878, 138).

A little smaller and narrower than brunneus, with more finely punctated, more glistening pronotum and longer elytra.

Reddish-brown; head darker, most often pitch-black, dull; pronotum rust-red, glistening; elytra and abdomen feebly glistening, finely haired; antennae, mouth-parts and legs reddish-yellow.

The head is broader than pronotum, with extremely dense, and rather fine punctation; antennae a little more slender than in brunneus; pronotum a little narrower than elytra, and broader than long, feebly narrowing posteriorly, finely and densely punctate, with narrow, smooth, sometimes rather indistinct middle-line; elytra $\frac{1}{2}$ time longer than pronotum, finely and very densely punctate; abdomen extremely finely and extremely densely punctate. L. 3.5-4 mm.

In the ♂ the abdominal fifth ventral joint obtusely angularly emarginate, the sixth rather deeply incised.

Distributed in Europe, with us it is rare and local; found especially in Falster under seaweed on the beach, heretofore however sparsely,

occasionally at Trelde; also found in Skaane (Thoms.), but not farther north.

2. Subgenus Hypomedon Muls.

4. M. melanocephalus F.

(Fabr. Ent. Syst. I, 2, 538; Kraatz. Ins. D. II, 718; Thoms. Skand. Col. II, 207; Muls. et Rey Brévip. 1878, 158; Janglb. Käf. M. II, 523).

One of our smallest species; in relation to the closest allied species identified by shorter elytra.

The head is black, pronotum yellowish-red, both strongly glistening; elytra [~]brownish-yellow with darker, often almost black dorsum; abdomen pitch-black with brownish tip, abdomen and elytra finely haired and somewhat glistening; antennae, mouth-parts and legs reddish-yellow.

The head is as broad as pronotum (Fig. 132), anteriorly with robust and rather sparse punctation, on sides and posteriorly finer, at middle isolated punctation, the surface entire, even if greatly magnified, smooth and polished; antennae rather short, the middle joints longer than broad, the next-last ones most often feebly transverse; pronotum hardly narrower than elytra, as broad as long, feebly narrowing posteriorly, with rather robust and sparse punctation, with smooth middle-line; elytra scarcely longer than pronotum, with rather fine and dense, feebly scabrous punctation; abdomen with especially fine and very dense punctation.

L. 3-3.5 mm.

In the ♂ the abdominal fifth ventral joint slightly grooved in middle-line, the sixth at tip with rather acute angular incision.

Fig. 132. Medon melanocephalus Fabr.

Distributed in Middle Europe; in Denmark it is heretofore found only in the southern and eastern parts, mostly in compost and at hot-house boxes, however also on the beach under seaweed (Sjaelland, here and there; Nykøbing F.; Fredsted in Nordsl.). It is found in Skaane, but not farther north (Thoms.).

5. M. bicolor Oliv.

(Oliv. Ent. III, 44, 7; Muls. et Rey Brévip. 1878, 155; Ganglb. Käf. M. II, 523. - ruficollis Kraatz Ins. D. II, 717. - melanocephalus Erichs. Käf. Mk. Br. I, 515; Gen Spec. Staph. 614; ?Thoms. Skand. Col. II, 207).

Much like melanocephalus, as a rule somewhat larger and broader, most often with somewhat lighter, more unicolorous brown or darkly brown elytra; head and pronotum more densely punctate and elytra longer, distinctly somewhat longer than pronotum. L. 4.5 mm.

In the ♂ the abdominal fifth ventral joint at middle slightly grooved, the sixth at tip obtusely angular emarginate.

Distributed about same as the preceding species, and with us, like same, found mostly in compost and at the beach, however also under stones on high, free ground. - In the collections this and the preceding species are presumably often confused.

6. M. propinquus Bris.

(Bris. Har. Col. Hft. II, 1867, 116; Muls. et Rey Brévip. 1878, 153; Ganglb. Käf. M. II, 523. - laetus Thoms. Skand. Col. IX, 186).

In color like both the preceding species, in size and form most like melanocephalus, somewhat more slender than bicolor, from both (sufficiently magnified) easily separated by: that the head in its surface is

finely transversally aciculated. Elytra are distinctly longer than pronotum, and this a little narrower than elytra, with parallel sides, with rather robust and dense punctation like in bicolor. L. 3.5-4 mm.

In the ♂ the abdominal fifth ventral joint smooth, not grooved in middle-line, the sixth at tip obtuse-angularly emarginate.

Distributed in the greater part of Europe, but more frequent southward than northward. Heretofore it has in this country only been taken a few places in Falster (Riserup, Nykøbing); common in South England under moss and in the remains of haystacks (Fowler); also found at Trelleborg in Skaane (Thoms.).

3. Subgenus Pseudomedon Muls.

7. M. obsoletus Nordm.

(Nordm. Symb. 146; Erichs. Käf. Mk. Br. I, 516; Gen. Spec. Staph. 623; Kraatz Ins. D. II, 719; Thoms. Skand. Col. II, 207; Muls. et Rey Brévip. 1878, 166; Ganglb. Käf. M. II, 524).

Narrow and slender, in relation to the closest preceding species can be recognized by the dull, feebly, silklike glistening surface of the body, due to the all over extremely dense and fine punctation, and further by the, especially of the elytra and abdomen, dense, fine, silky glistening gray hair-vestiture.

Dull pitch-black; pronotum, elytra and abdominal tip often brownish; antennae, mouth-parts and legs brownish red, the antennal middle-joints, and femora often darker.

The head is noticeably a little narrower than pronotum, with parallel temple-sides; interval of the temples on ventral side of the head rather

broad, with as fine and dense punctation, as the very densely and finely punctated temples; antennae slender, their middle-joints longer than broad, the next-last joints as broad as long; pronotum narrower than elytra, as long as broad, hardly narrowing posteriorly; elytra almost $1\frac{1}{2}$ times as long as pronotum; abdomen tapering posteriorly; anterior femora somewhat thickened. L. 4 mm. ----- (Page 459)-----

In the ♂ the fore-tarsal first three joints strongly dilated, and the abdominal sixth ventral joint at tip very feebly emarginated.

In compost and at hothouse benches, often numerous, also on beaches under seaweed; in this country rare or local (Copenhagen in gardens, and at the sound, Dyrehaven; Nykøbing F.; Aalykkeskov, Fyen). - It is distributed in Middle Europe, and found several places in Sweden, also in the southern part of Norway and Finland.

8. M. obscurellus Er.

(Erichs. Gen. Spec. Staph. 624; Kraatz Ins. D. II, 719; Muls. et Rey Brévip. 1878, 169; Ganglb. Käf. M. II, 524).

From obsoletus, which it is remarkably like, and with which it is easily confused, it is separated by the following details:

It is ordinarily a little lighter in color, most often reddish-brown, antennae, mouth-parts and legs reddish-yellow; the head (Fig. 133) is hardly narrower than pronotum, feebly, yet distinctly broadened posteriorly; on ventral side the interval*) between the temples with isolated and rather coarse punctation, much coarser than the finely and very densely punctated temples; elytra most often a little shorter than in obsoletus, amply $\frac{1}{3}$ longer than pronotum. L. 3.5-4 mm.

In the ♂ the first three joints of fore tarsi are strongly dilated; the sixth ventral joint at tip with a small acute, angular incision.

Very rare in Middle Europe. In this country heretofore apparently found only in Jaegersborg Dyrehave, in compost (Engelhart). In Middle Europe it is rarer than the preceding species, and not identified in Sweden or Norway.

- - Fig. 133. Medon obscurellus Er. --

82. Genus Lithocharis Lacord.

(Lacord. Faun. Ent. Par. I, 431; Thoms. Skand. Col. II, 204; Muls. et Rey Brévip. 1878, 172; Ganglb. Käf. M. II, 524)

Lithocharis is separated from Medon namely in that: the eyes are larger, as long as the temples, and that the prosternal spiracula are uncovered and visible.

To this genus only 1 European species, which is widely distributed, and also found in this country.

1. L. ochracea Gravh.

(Gravh. Micr. 59; Erichs. Käf. Mk. Br. I, 516; Gen. Spec. Staphl. 623; Kraatz Ins. D. II, 716; Thoms. Skand. Col. II, 204; Muls. et Rey Brévip. 1878, 174; Ganglb. Käf. M. II, 525).

Reddish-brown or yellowish-brown, with very fine silky gray hair, feebly glistening; the head black; antennae, mouth-parts and legs yellow.

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The body all over with especially dense and fine punctation; head almost square, about as broad as pronotum; eyes rather flat, as long

as the temples; the neck narrow; antennae slender; pronotum hardly longer than broad, with parallel sides and narrow, somewhat indistinct, smooth middle-line; elytra $1\frac{1}{3}$ times as long as pronotum, their color most often less reddish than pronotum; abdomen posteriorly tapering; fore-tarsi in both sexes feebly dilated. L. 4-4.5 mm.

In the ♂ the abdominal fifth ventral joint with shallow emargination and the margin finely haired; the sixth is by a deep, ovally rounded incision divided into two narrow, sharply tapering side-pieces (Fig. 134).

Fig. 134. Abdominal last three ventral joints in Lithocharis ochracea Gravh. ♂.

Somewhat local, but not rare in this country, especially in larger gardens and parks in compost and at hothouse benches, sometimes in great numbers; more rarely in alluvium and under stones at shores of lakes, and on beaches. - The larvae, which are described and illustrated by Mulsant et Rey (Ann. Soc. Linn. Lyon 1877, 176, Tab. VI, Fig. 29), to be found in manure (Ganglb.), but may likely also be found where the beetle occur most frequently.

(Scopaeina Muls. et Rey, Seidlitz).

83. Genus Scopaeus Er.

(Erichs. Gen. Spec. Staph. 604; Kraatz Ins. D. II, 701; Thoms. Skand. Col. II, 207; Muls. et Rey Brévip. 1878, 179; Ganglb. Käf. M. II, 526).

The body is longish-narrow and fine; head proportionately large, often fully as broad as pronotum, with straight, parallel sides, or feebly broadened posteriorly, and with a very narrow, short neck; eyes small or very small, temples long (Fig. 137); antennae rather short, straight,

filiform, their first joint most robust and longest, the third often shorter than the second; labrum four-toothed, the two middle teeth longer and more robust than the side teeth; mandibles robust, sickle-shaped with three or four teeth; the third joint of maxillary palpi thick, the fourth especially small and fine, scarcely visible. Pronotum oblong, broadest before the middle, from there narrowing anteriorly, and also somewhat posteriorly, the sides not margined, the middle-line occasionally grooved; elytral sides rather parallel; abdomen elongate, toward the tip most often slightly broadened, its first four free dorsal joints depressed at base. Legs robust, anterior femora thickened and with an obtuse tooth on ventral margin; first four joints of foretarsi short and broad; the middle- and hindmost tibiae at tip rounded off, or obliquely truncated (Fig. 135), first joint of hind tarsi longer than any of the middle ones, shorter than the claw-joint.

Fig. 135. Middle leg (a) and hind leg (b) of Scopaeus cognatus Muls.

In Middle Europe about a half score species are distributed; they live under stones, in gravel pits, on half-damp slopes, also in plant mould at hothouse boxes. In Denmark and partly in the other northern countries 4 species are found, all rare, and can, to some extent, only be correctly determined by the sex-characteristics of the ♂.

Key to Subgenera and Species.

1. Temples of the head with parallel sides. Pronotum without groove

in the middle-line: 1. Subg. Scopaeus s. str. - Head broader than long. Color of body brown. L. 3.5-4 mm: 1. laevigatus Gyllh.

- Head posteriorly feebly broadened. Pronotum most often with a very fine groove in the middle-line: 2. Subg. Polyodontus Sol.....2.

2. Middle tibiae distinctly and rather strongly broadened (Fig. 135 a).

Abdominal sixth ventral joint in the ♂ with a deep incision at tip, and with two deep impressions above the incision (Fig.138).

L. 3 mm..... 2. S. cognatus Muls.

- Middle tibiae not, or only feebly broadened..... 3.

3. Head as broad as long; eyes small, yet not period-like. Abdominal sixth ventral joint in the ♂ with a rather deep triangular incision, without impression. L. 3-3.5 mm...3. S. sulcicollis Steph.

- Head a little longer than broad; eyes very small, almost period-like. Abdominal sixth ventral joint in the ♂ triangularly incised at tip, and with a flat impression before the incision. L. 2.5 mm..... 4. S. minimus Er.

1. Subg. Scopaeus s. str.

1. S. laevigatus Gyllh.

(Gyllh. Ins. Suec. IV, 483; Erichs. Käf. Mk. Br. I, 510; Gen. Spec. Staph. 605; Kraatz Ins. D. II, 703; Thoms. Skand. Col. II, 208; Muls et Rey Brévip. 1878, 182; Ganglb. Käf. M. II, 528).

A little less slender and uniformly broad than the following species, recognized especially by the form of the head, and the grooveless pronotum, also by the sex-characters of the ♂.

Pitch-black or pitch-brown, occasionally reddish-brownish, somewhat

glistening, very finely haired; posterior margin of elytra most often lighter; antennae, mouth-parts and legs reddish-yellow.

The head is a little broader than pronotum, rounded-square, a little broader than long, posteriorly not broadened, with broadly rounded off temple-corners, very finely and particularly densely punctated; antennae short; pronotum oval, considerably narrower than elytra, punctated same as the head, posteriorly with two shallow, longish cavities, separated by a short carina, which anteriorly runs over in a fine, smooth middle-line without groove; elytra $\frac{1}{3}$ longer than pronotum, somewhat less densely, but more distinctly punctated than same; abdomen posteriorly distinctly broadened, especially in the ♂, all over with very fine and dense punctation. L. 3.5-4 mm.

In the ♂ the abdominal sixth ventral joint (Fig. 137) with a deep and rather broad, anteriorly rounded incision, with two sharp teeth on each side, of which the hindmost are posteriorly directed and a little outcurved, while the foremost are incurved.

Very rare, and in this country heretofore only taken a few times singly: on the cliffs between Sandvig and Allinge (Schjødte), Jyderup with Formica rufa (Koch), Lysemose in Lolland (Schlick). Sundby Storskov, Falster (Fabr. Tengnagel), Storeklint, Møen (Rosenberg). It is found several places in Sweden, in southern Norway and in Finland; in Middle Europe it is not rare (Ganglb.).

2. Subgenus Polyodontus Sol.

2. S. cognatus Muls.

(Muls. et Rey Ann. Soc. Linn. 1854, 180; Kraatz Ins. D. II, 707; Muls et Rey Brévip. 1878, 204; Ganglb. Käf. M. II, 529).

Identified by form of the head, finely grooved pronotum, and in relation to the following species by dilated middle-tibiae, and by the sex-characters of the ♂.

Pitch-black, or pitch-brown with pitch-black abdomen and often reddish-brown pronotum, finely haired and feebly glistening; antennae, mouth-parts and legs reddish-yellow, occasionally brownish yellow or darker.

The head (Fig. 137) is distinctly broader than pronotum, somewhat square, anteriorly feebly narrowing, with straight sides and prominent, slightly rounded-off temple-corners, also with very feebly emarginated, almost straight posterior margin, head and pronotum with especially fine and dense punctation; antennae short, shorter than head and pronotum together; pronotum oblong, obovate, hardly as broad as elytra, posteriorly before scutellum with two feeble, often indistinct longitudinal cavities, at middle-line finely grooved; elytra somewhat longer than pronotum, with very dense, rather robust, and somewhat scabrous punctation; abdomen very finely and densely punctated; middle-tibiae rather strongly dilated (Fig. 135 a). L. 3 mm.

In the ♂ the abdominal sixth ventral joint at tip deeply incised, and has at the base two deep, elongate, smooth impressions (Fig. 138), separated by a roof-shaped interval.

Fig. 137. Scopaeus cognatus Muls.

Fig. 138. Abdominal last three ventral joints in Scopaeus cognatus Muls. ♂.

Very rare in this country, and most often found singly: Svanemosegaard and at the sound (Schjødte), Geels Forest (Rosenberg), Storeklint, Møen (Rye); one single time I found it in great numbers in chalky, gravelly dirt cleaned out of a ditch in Grejsdalen. It is rather rare in Middle Europe and has seemingly reached its northern boundary in Denmark.

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A very closely allied species with similar sex-characters is S. rubidus Muls. et Rey. It differs from cognatus by yellowish-red pronotum and longer, more finely punctated, red elytra, and belongs mostly in South Europe (Ganglb.).

3. S. sulcicollis Steph.

(Steph. Ill. Brit. Ent. V, 277; Ganglb. Käf. M. II, 530. - minutus Erichs. Gen. Spec. Staph. 606; Kraatz Ins. D. II, 708; Thoms. Skand. Col. II, 208; Muls. et Rey Brévip. 1878, 209).

Much like cognatus both in form, color and size, but with a little narrower head, which is as long as broad, somewhat more slender antennae, a little longer than pronotum, more finely punctated elytra, and with narrow, not, or only feebly dilated middle-tibiae. Sometimes the elytra are distinctly longer than pronotum (var. intermedius Muls. et Rey); in the typical form as long as pronotum. Most definitely separated from cognatus and the following species by the sex-characteristics of the ♂, inasmuch as the abdominal sixth ventral joint at tip is with only a triangular incision, but without cavities or impressions at bottom. L. 3-3.5 mm.

Very rare here, and found only singly and in few places: Springforbi

at Copenhagen (Schjødte), Hillerød in fungi (author); Ejby at Odense (Jørgensen). Said not to be rare in Middle Europe (Ganglb.), and is also found in Skaane, in the southern part of Norway, and in Finland (Grill).

4. S. minimus Er.

(Erichs. Käf. Mk. Br. I, 511; Gen. Spec. Staph. 607; Kraatz Ins. D. II, 709; Muls et Rey Brévip. 1878, 213; Ganglb. Käf. M. II, 530).

Our smallest species, still smaller and slenderer than the two preceding species; in connection with this, further recognized by the sex-characters of ♂.

Pitch-black or reddish-brown with pitch-black, at tip reddish abdomen, finely haired, dully glistening; antennae, mouth-parts and legs reddish-yellow.

The head is somewhat longer than in sulcicollis, a little longer than broad, feebly broadened posteriorly, with rather strongly rounded-off temple-corners and with very small, almost period-like eyes, head and pronotum with especially fine and dense punctation; antennae rather slender; pronotum considerably narrower than the head, and somewhat narrower than elytra, oblong, at middle-line very finely, often indistinctly grooved; elytra as long as pronotum, with very fine and dense, yet more distinct punctation than same; abdomen especially finely and densely punctate; middle-tibiae narrow, or hardly broadened. L. 2.5 mm.

In the ♂ the abdominal sixth ventral joint at tip angularly incised and with a feeble, almost smooth longitudinal impression before the incision.

Everywhere in Middle Europe, also in Denmark, where it apparently reaches its northern boundary, very rare; at Nyraad, South Sjaelland, it is found in a gravel-pit (Schlick) and at Bremersvold, Loll., a few specimens are sifted on the dykes (Jakobsen and Engelhart).

84. Genus Stillicus Latr.

(Latr. Enc. Meth. X, 1825; Erichs. Käf. Mk. Br. I, 519; Gen. Spec. Staph. 629; Kraatz Ins. D. II, 696; Thoms. Skand. Col. II, 202; Muls. et Rey Brévip. 1878, 215; Ganglb. Käf. M. II, 530).

The body is slightly convex; the head remarkably large (Fig. 139), considerably broader than pronotum, broad, rounded off, with a very narrow and thin neck, and with round, rather small or larger eyes; antennae moniliform, their third joint a little longer than the second; labrum very broad with dilated side margins, and in the anterior margin at middle with two distinct, pointed teeth or serrations*) and sometimes with a smaller tooth at the side of these; mandibles sickle-shaped, on inner margin most often with three teeth; last joint of maxillary palpi very small and fine, hardly visible.

Pronotum is much narrower than elytra, oblong, anteriorly in toward the neck tapering, posteriorly feebly narrowing, its sides anteriorly finely margined; elytra rather convex; abdomen broadest behind middle, and posteriorly tapering with slightly rounded sides, its first three or four free dorsal joints depressed at base; legs slender; front-femora and fore-tarsi normal, the hindmost tibiae at tip almost rectangularly truncated; hind-tarsal first joint longer than the second, some-

*)teeth shaped like those of a saw; translator.

times longer than the claw-joint.

In Middle Europe 8 species are living, of which 4, perhaps 5 are found in this country, and partly in the other northern countries. They live mostly on damp ground under leaves and moss, but also in compost, and at rotting plants. - Of their larvae, which presumably may be found under similar conditions as the beetles, none are heretofore reared by us. According to Rey (Ann. Soc. Linn. 1880, 416, T. XXVII) they are remarkable, like the beetles, by the unusual large head and thin neck, and for the rest somewhat resembles the Philonthus larvae.

Fig. 139. Stilicis rufipes Germ.

Key to Species.

1. Eyes rather small, much shorter than temples. Elytra unicolorous pitch-brown. L. 6 mm..... 1. St. rufipes Germ.
- Eyes rather large, as long as the temples. Elytral posterior margin yellow or reddish-yellow..... 2.
2. Pronotum with smooth middle-line, which is distinctly and entirely grooved. Elytra rather robustly punctate..... 3.
- Pronotal smooth middle-line oftenest only distinctly grooved posteriorly. Elytra rather finely punctate..... 4.
3. Antennae and legs unicolorous reddish-yellow. L. 5.5 mm..... 2. St. similis Er.
- Antennae and legs yellow; middle- and hind-femoral tip brownish shady. L. 5.5 mm..... 3. St. geniculatus Er.
4. Head not broader than elytra. Antennae, knees and tibiae partly

brownish. L. 4.5-5 mm..... 4. St. orbiculatus Payk.

- Head much broader than elytra. Antennae and legs entirely yellow.

L. 4 mm..... 5. St. Erichsoni Fauv.

1. St. rufipes Germ.

(Germ. Faun. Ins. Eur. 18, 4; Erichs. Käf. Mk. Br. I, 521; Gen. Spec. Staph. 631; Kraatz Ins. D. II, 698; Thoms. Skand. Col. II, 202; Muls. et Rey Brévip. 1878, 235; Ganglb. Käf. M. II, 533).

Our largest species. Identified especially by the rather small eyes and unicolorous, pitch-brown elytra.

Black; head and pronotum dull, elytra and abdomen glistening, finely haired; elytra pitch-brown, their posterior margin occasionally a little lighter; antennae, mouth-parts and legs brownish-red.

The head is broad, broader than the elytra, head and pronotum with very dense, rather coarse umbilical punctation; eyes rather small, considerably shorter than the temples; the fore-margin of labrum at middle with two teeth and a denticle at the side of these; antennae not long, moniliform; pronotum much narrower than elytra, at middle with a narrow, smooth, anteriorly vanishing, posteriorly finely grooved middle-line; elytra somewhat longer than pronotum, with rather dense and fine, at posterior margin finer punctation; abdomen with very fine and dense punctation. L. 6 mm.

In the ♂ the abdominal sixth ventral joint at tip with an angular incision.

Distributed in North- and Middle Europe. Common everywhere in this

country, on damp woodland or marshy ground under leaves and moss and in alluvium at water edges; in gardens under rotting plants and in compost.

2. St. similis Er.

(Erichs. Käf. Mk. Br. I, 521; Gen. Spec. Staph. 632; Kraatz Ins. D. II, 699; Thoms. Skand. Col. II, 203; Muls. et Rey Brévip. 1878, 227; Ganglb. Käf. M. II, 533. - orbiculatus Gravh. Micr. 63).

A little smaller than rufipes, but with larger eyes, recognized especially by the fine, through running middle-groove of pronotum, color of legs, and sex-characters of the ♂.

Black; head and pronotum dull, elytra and abdomen glistening, finely haired; elytral posterior margins particularly at the outer corners, antennae, mouth-parts and legs reddish-yellow.

The head is as broad as elytra, head and pronotum with very dense and rather coarse umbilical punctation; eyes almost as long as the temples, fore-margin of labrum at middle with two teeth; antennae short, scarcely thickened outwardly, their next-last joints feebly transverse; pronotum oval with a narrow, not abbreviated, and at the entire length finely grooved, smooth middle-line; elytra a little longer than pronotum, with rather robust and dense punctation; abdomen especially densely and very finely punctated. L. 5.5 mm.

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In the ♂ the abdominal fifth ventral joint posteriorly in middle with a broad, semicircular, rather flat impression, the sides of which posteriorly are elevated carina-like and each running out in a small tooth;

the sixth is at tip angularly incised (Fig. 140).

Fig. 140. The last ventral joints in Stillicus similis Er. ♂¹.
(according to Muls). - (Page 465)-

Distributed in North and Middle Europe, but in this country very rare and local, heretofore mainly found in North Sjaelland, on damp ground under moss and in alluvium (Lyngby Mose, Ueterslev Mose, Donse, Tisvilde) singly, also at Haderslev.

4. St. geniculatus Er.

(Erichs. Käf. Mk. Br. I, 522; Gen. Spec. Staph. 632; Kraatz Ins. D. II, 699; Muls. et Rey Brévip. 1878, 229; Ganglb. Käf. M. II, 534).

From similis, with which it, on account of their great similarity easily can be confused, it is separated by this: that the legs are of lighter yellow, but the tips of middle- and hind-femora are brownish shady, and that the abdominal fifth ventral joint in the ♂¹ has a broader impression, of which the carina-shaped sided posteriorly run out in a longer point; the sixth ventral joint is at tip broader and less acutely incised. L. 5.5 mm.

Distributed in Middle Europe. Though it supposedly is found in the vicinity of Sønderborg (Wustnei Verzeich. d. Käf. Sond.), its occurrence here may yet be considered as doubtful.

4. St. orbiculatus Payk.

(Payk. Mon. Staph. 35; Ganglb. Käf. M. II, 534. - affinis Erichs. Käf. Mk. Br. I, 522; Gen. Spec. Staph. 633; Kraatz Ins. D. II, 700; Thoms. Skand. Col. II, 203; Muls. et Rey Brévip. 1878, 232).

Larger than the following species, and easily identified by the most often grooveless middle-line of pronotum, and the color of the legs.

Black; head and pronotum dull; elytra and abdomen glistening and finely haired; elytral posterior margin reddish-yellow; antennae and mouth-parts brownish-red; legs reddish yellow, femoral tip and ~~and~~ tibiae brownish or darkly shaded; fore- and middle-coxae brown .

The head as broad as elytra, head and pronotum with especially dense, and rather coarse umbilical punctation; eyes as long as the temples; anterior margin of labrum with two teeth; antennae outwardly feebly thickened; pronotum much narrower than elytra, rather oval, with a smooth, rather narrow, posteriorly sometimes very finely grooved middle-stripe; elytra somewhat longer than pronotum, rather finely and sparsely punctated; abdomen with very fine and very dense punctation, its sides distinctly rounded. L. 5 mm.

In the ♂ the abdominal sixth ventral joint at tip not deeply incurved, the fifth with broad and shallow emargination.

Very common everywhere in Europe, with us it is often numerous in compost.

5. St. Erichsoni Fauv.

(Fauv. Not. Ent. V, 1867, 114; Ganglb. Käf. M. II, 534. - orbiculatus Erichs. Käf. Mk. Br. I, 523; Gen. Spec. Staph. 634; Kraatz Ins. D. II, 700; Thoms. Skand. Col. II, 204; Muls. et Rey Brévip. 1878, 238).

Our smallest species; in connection with this, mainly identified by very broad head, proportionately narrow elytra, and color of the legs.

Black; head and pronotum dull, elytra and abdomen glistening, finely haired; posterior margin of elytra, antennae, mouth-parts and legs, also

fore- and middle-coxae yellow or reddish-yellow.

The head is conspicuously large, distinctly broader than elytra, head and pronotum with particularly dense and rather coarse umbilical punctation; eyes large, longer than temples; fore-margin of labrum two-toothed; antennae very feebly thickened outwardly; pronotum rather oval, narrower than elytra, and with a rather narrow, smooth, posteriorly more or less distinctly grooved stripe at middle; elytra as long as pronotum, proportionately narrower than in the preceding species, with rather fine and not dense punctation; abdomen very finely and densely punctated, its sides distinctly rounded. L. 4-4.5 mm.

In the ♂ the abdominal sixth ventral joint at tip not deeply incurved, the fifth with shallow and broad emargination.

Distributed in North and Middle Europe on damp ground, but in this country far from being as common as the preceding species.

(Paederina Muls. et Rey, Seidlitz).

85. Genus Paederus Fabr.

(Fabr. Syst. Ent. 1775, 268; Erichs. Käf. Mk. Br. I, 517; Gen. Spec. Staph. 649; Kraatz Ins. D. II, 724; Thoms. Skand. Col. II, 195 (Paederus); Muls. et Rey Brévip. 1878, 242; Ganglb. Käf. M. II, 534).

The body (Fig. 141) is elongate and rather narrow, somewhat convex; the head rounded, with narrow, very short neck and round, rather small, somewhat protruding eyes, and with slender, filiform antennae, of which the third joint is considerably longer than the second; fore-margin of labrum without teeth or denticles, but with a small incision at middle; last joint of maxillary palpi very small and short, wart-shaped; mandibles

sickle-shaped, at middle of inner margin armed with a robust, occasionally bicuspidate tooth.

Pronotum is polished, with only isolated punctation, rather convex and oval, the greatest breadth being before the middle, its sides sometimes finely margined; elytra of rather even breadth; abdomen uniformly broad and only tapering posteriorly, its first four free dorsal joints depressed at base; legs long and slender; fourth tarsal joint bilobed; fore-tarsi in both sexes somewhat dilated, and the fourth bicleft joint of these, as well as of the other tarsi are on the ventral side provided with a felt sole, which enables the animals to run up at an entirely perpendicular surface, even when this is smooth; first joint of hind tarsi elongated, longer than the second, and longer than the claw-joint.

In Middle Europe about a half score species are distributed. They live in flocks at shores of inland lakes, ponds and running water, and as a rule are remarkable by their conspicuous, vivid colors. Only 4 species are found in this country and the rest of the north. - The larva of P. riparius is found at Fursø and reared (Ditlevsen, 5. 8. 1895). It is thereby concluded (W. Schlick: Ent. Medd. V, 124), that Thomson's description of the supposed larva of this species (Skand. Col. II, 195) doubtless must refer to the larva of Othius fulvipennis F. The difference appears, inter alia, in that the larva of Paederus has 6 ocelli, and long cerci, while that by Thomson described larva has 4 ocelli, and short cerci, like the larva of Othius fulvipennis F. (reared by Rosenberg 22. 8. 95).

Fig. 141. Paederus riparius Linn.

Key to Subgenera and Species.

1. Abdomen unicolorous black, or bluish-black. 1. Subg. Paederidus
Muls. - The second joint of maxillary palpi reddish- or brown-
ish-yellow. L. 8-9 mm..... 1. P. ruficollis Fabr.
- Abdomen bicolored: reddish-yellow with black tip. 2. Subg. Paederus
s. str. Muls..... 2.
E
2. Elytra much longer than pronotum, and considerably broader than
same. L. 7 mm..... 2. P. fuscipes Curt.
- Elytra only a little longer and broader than pronotum..... 3.
3. Pronotum longer than its breadth anteriorly, its sides not margin-
ated. L. 7-8 mm..... 3. P. riparius Linn.
- Pronotum as broad as long, its sides very finely, yet distinctly
marginated. L. 8-9 mm..... 4. P. litoralis Gravh.

1. Subgenus Paederidus Muls. et Rey.

1. P. ruficollis Fabr.

(Fabr. Spec. Ins. I, 339; Erichs. Gen. Spec. Staph. 602; Kraatz Ins. D. II, 731; Thoms. Skand. Col. II, 197; Muls. et Rey Brévip. 1878, 246; Ganglb. Käf. II, 536).

In relation to the following species easily identified by the color alone.

Black or bluish-black, somewhat glistening; elytra and abdomen rather finely grayhaired; head and elytra often steel-blue; pronotum red; antennal first two joints on ventral side, and maxillary palpal second joint reddish or brownish-yellow.

The head is rounded, as broad as pronotum, at middle with scattered, on sides with rather dense, robust punctuation; antennae slender, their third joint much longer than the second, the next-last ones longer than broad; pronotum oval, anteriorly considerably narrower than elytra, and posteriorly narrowing, with fine and very scattered punctuation, at middle smooth; elytra $1\frac{1}{3}$ times as long as pronotum, with robust and dense punctuation; abdomen finely and rather densely punctate, the transversal grooves of the foremost free dorsal joints often smooth. L. 8-9 mm.

In the ♂ the abdominal sixth ventral joint at tip with a deep and acute incision.

Very local; but often numerous where it occurs. Especially on sandy lake shores, and here and there on the beach (at Tissø, Tjustrup Lake, Maribo Lake; Silkeborg, at Flensborg fjord; Po in Bornholm). It is found in Middle Sweden, but not farther north. - A somewhat larger species, P. sanguinicollis Steph. (L. 8.5-9.5 mm), with broader head, and anteriorly broader pronotum, but otherwise particularly like ruficollis, occur in Middle-Europe, and is (according to Reitter) more common in Germany than ruficollis. - In an other Middle European, likewise particularly closely allied, but smaller species, P. gemellus Kr. (L. 6.5-7 mm) the elytral, but especially the abdominal hair vestiture is longer and denser, and on sides of the four first free abdominal joints almost stellately arranged (Ganglb.). None of these two species are heretofore encountered in this country, but are not entirely improbable; they may be confused with ruficollis Fabr. The larva of ruficollis is found at Tissø (6. 1895, W. Schlick, Rosenberg).

2. Subgenus Paederus s. str. Muls. et Rey.

2. P. fuscipes Curt.

(Curt. Ent. Brit. III, 108; Ganglb. Käf. M. II, 537. - longipennis Erichs. Käf. Mk. Br. I, 517; Gen. Spec. Staph. 651; Kraatz Ins. D. II, 728; Thoms. Skand. Col. II, 196; Muls. et Rey Brévip. 1878, 261).

In color much like the two following species, but a little smaller than these, with narrower head and pronotum also with considerably longer elytra.

Reddish-yellow, glistening; elytra and abdomen sparsely haired; the head, except the mouth, also the abdominal tip from, and including the fifth free joint black; elytra blue or greenish; mesosternum, antennal outer part, tip of maxillary palpi, and tip of femora, often also the middle- and hind-tibiae and the outer tarsal joints, also the scutellum brownish or brownish black.

The head is rounded, as broad as pronotum, at sides finely and sparsely punctated, at middle smooth; antennae slender; pronotum oblong, much narrower than elytra, scarcely narrowing posteriorly, on sides with isolated punctation, otherwheres smooth and polished; elytra $1\frac{1}{2}$ times as long as pronotum, with coarse and dense punctation; abdomen with very fine and very scattered punctation. L. 7 mm.

Distributed in Europe; in this country it is most often found in our southern and eastern regions, but it is very local. Along the beach of Bornholm it is in several places numerous; here and there in Sweden and Finland, but is not found in Norway (Grill).

3. P. riparius Linn.

(Linne Syst. Nat. Ed. X, 422; Erichs. Käf. Mk. Br. I, 518; Gen. Spec. Staph. 653; Kraatz Ins. D. II, 727; Thoms. Skand. Col. II, 196; Muls. et Rey Brévip. 1878, 258; Ganglb. Käf. M. II, 537).

Reddish-yellow, glistening; elytra and abdomen sparsely haired; elytra blue; the head, with exception of the mouth, abdominal tip from and including the fifth free joint, antennal outer part, tip of maxillary palpi and femora, also the metasternum black or pitch-black; tarsi partly brownish black.

The head is as broad as pronotum, broader than in fuscipes, sparsely punctated, at middle smooth; antennae slender and thin; pronotum oval, anteriorly about as broad as elytra, narrowing posteriorly, on sides with isolated punctation, otherwise smooth and polished; elytra a little longer than pronotum, coarsely and rather densely punctated; abdomen with fine and sparse punctation. L. 7-8 mm.

In the ♂ the andominal sixth ventral joint is, like in the rest of the species of this genus, at tip deeply incised.

Distributed in Europe, and in this country it is numerous at brooks, lakes and water-filled marshes.

4. P. litoralis Gravh.

(Gravh. Micr. 61; Erichs. Käf. Mk. Br. I, 519; Gen. Spec. Staph. 650; Kraatz Ins. D. II, 726; Thoms. Skand. Col. II, 196; Muls. et Rey Brévip. 1878, 255; Ganglb. Käf. M. II, 538).

Much like riparius, but most often a little larger and distinctly of more robust build, recognized mainly by the form of pronotum and its finely margined sides.

Reddish-yellow, glistening; elytra and abdomen sparsely haired; elytra blue; the head and tip of abdomen from, and including the fifth free joint, also metasternum, and outer third part of femora black; middle joints of the antennae and tip of maxillary palpi often brownish.

Head as broad as pronotum, in the ♂ larger than in the ♀, on sides with scattered, at middle simple punctation; antennae less slender and shorter than in riparius; pronotum short oval, strongly convex, anteriorly as broad as long, and as broad as elytra, posteriorly slightly narrowing, on sides with scattered and fine punctation, otherwheres smooth and polished, sides very finely, yet distinctly margined; elytra as long as pronotum, with coarse and rather dense punctation, abdomen finely and sparsely punctate. L. 8-9 mm.

In the ♂ the head is fully as broad as pronotum, and the abdominal sixth ventral joint like in the preceding specied deeply incised.

At lakes, watercourses and on beaches; with us it is local and rather rare. It is distributed mostly in Middle and South Europe, is found in Finland, but not in Sweden or Norway.

86. Genus Astenus Steph.

(Steph. Ill. Brit. V, 1832, 275; Ganglb. Käf. M. II, 539. - Sunius Erichs. Käf. Mk. Br. I, 1839; Gen. Spec. Staph. 637; Kraatz Ins. D. II, 720; Thoms. Skand Col. II, 209; Muls. et Rey Brévip. 1878, 269).

The body (Fig. 142) (in our species) narrow, slender and of uniform breadth; head large, elongative-square, with short, narrow neck, and rather small, rounded, somewhat protruding eyes, in front of these a

little narrowing and more or less elongated; antennae rather short, fine, hardly thickened outwardly, their third joint most often longer than the second; fore-margin of labrum at middle with two denticles*); mandibles long, sickle-shaped, the inner margin armed with one or more teeth; last joint of maxillary palpi especially small, spiculiform, nearly hidden in the claviformly thickened third joint.

Pronotum most often oblong and narrower than the head, anteriorly rounded off and abruptly narrowing, posteriorly more smoothly narrowing, pronotum and head with dense umbilical punctation, and dull; elytral sides slightly rounded; abdomen more or less elongate, occasionally broadened a trifle posteriorly, its first, or first three free dorsal joints depressed at base; legs rather slender; anterior tarsi not dilated, all tarsal first joints longer than the second, the fourth short, and divided into two, with a membranous appendix equipped lobes, between which the short claw-joint is inserted. Abdominal sixth ventral joint in the ♂ is at tip angularly incised.

In the northern part of Middle Europe about 5 species are distributed, which also occur in this, and partly in the other northern countries. They are found under leaves and stones, at the root of plants and in compost, a single one of them also with ants.

Key to Species.

1. Elytral and abdominal first four free dorsal joints dull. L. 4.5-5 mm.
..... 1. A. filiformis Latr.
- Elytra and abdomen more or less glistening..... 2.

2. Abdomen elongate, of almost uniform breadth. Pronotal sides with only two outstanding bristles. L. 3.5-4 mm...2. A. pulchellus Heer.
- Abdomen less elongate, posteriorly distinctly broadened. Pronotal sides with 4-5 outstanding bristles..... 3.
3. Elytra almost entirely black, only their outmost posterior margin reddish-yellow. L. 3.5-4 mm.....3. A. immaculatus Steph.
- Elytral posterior margin with the hindmost part of the suture rather broadly reddish-yellow..... 4.
4. Elytra considerably longer and broader than pronotum. L. 3-3.5 mm. 4. A. angustatus Payk.
- Elytra hardly longer and very little broader than pronotum. L. 3 mm. 5. A. neglectus Mark.

Fig. 142. Astenus angustatus Payk.

1. A. filiformis Latr.

(Latr. Gen. Crust. et Ins. I, 293; Erichs Käf.Mk. Br. I, 525; Gen. Spec. Staph. 638; Kraatz Ins. D. II, 721; Thoms. Skand. Col. II, 209; Muls. et Rey Brévip. 1878, 280; Ganglb. Käf. M. II, 540).

Our longest species, easily identified by the completely dull elytra and anteriorly dull abdomen; elongate and of uniform breadth.

Black, depressed, short and fine grayish-yellow haired; thorax with elytra, also abdominal three-four first free joints completely dull, the posterior part of abdomen somewhat glistening; elytral posterior margin rather broadly, and in toward the suture widened reddish-yellow; posterior margins of abdominal joints narrowly, antennae, mouth-parts, and

legs clearly reddish-yellow. Occasionally the humeri can also be reddish-yellow (var. humeralis).

The head is fully as long as broad, broader than pronotum, head as well as pronotum with very dense umbilical punctation; antennae fine and slender; pronotum longer than broad, anteriorly almost as broad as elytra, narrowing posteriorly, on each side with two outstanding bristles; elytra longer than pronotum, with very dense and rather robust scabrous punctation, abdomen elongate, toward tip feebly or scarcely broadened, its first four free dorsal joints at most twice as broad as long, with very dense and rather fine punctation, the following less densely punctated. L. 4.5-5 mm.

Distributed in Europe; not very frequent in this country, mostly on high ground under moss and at the root of plants growing in the sand; here and there in Sweden, in the southern part of Norway and in Finland (Grill).

2. A. pulchellus Heer.

(Heer Faun. Helv. I, 230; Ganglb. Käf. M. II, 541. - diversus Aube Ann. Soc. Ent. Fr. 1850, 318; Muls. et Rey Brévip. 1878, 285; cf. Kraatz Ins. D. II, 722 and 723 Note).

Elongated like filiformis, but smaller and narrower, with somewhat glistening elytra and abdomen.

Black or brownish-black, depressed, fine and short grayish-yellow haired; head and pronotum dull; elytra and abdomen broadly, and in toward the suture broader reddish-yellow; posterior margins of the abdominal joints, antennae, mouth-parts and legs yellow or reddish-yellow, tip of femora and tibiae sometimes shaded. In lighter specimens the

base of elytra and the humeri are reddish, so that only a rounded spot on middle of elytra is black.

The head is proportionally narrower than in filiformis, yet broader than pronotum, head and pronotum with very dense umbilical punctation; pronotum oviform, strongly narrowing posteriorly, anteriorly narrower than elytra, its sides with two outstanding bristles; elytra longer than pronotum, with robust and dense scabrous punctation; abdomen narrow, elongate, posteriorly very feebly broadened, its first four free dorsal joints at most twice as broad as long, with robust and dense punctation, the following less densely punctate. L. 3.5-4 mm.

Distributed especially in western Europe, but everywhere very rare; in this country very local and rare, at rotting plants and in compost (Copenhagen, Valby, Odense). It is found in Finland, but not in Sweden or Norway.

3. A. immaculatus Steph.

(Steph. Ill. Brit. V, 276; Ganglb. Käf. M. II, 542. - intermedius Erichs. Käf. Mk. Br. I, 524; Gen. Spec. Staph. 640; Kraatz Ins. D. II, 722; Thoms. Skand. Col. II, 209; Muls. et Rey Brévip. 1878, 294).

Less elongate than the preceding species, and like the following with posteriorly distinctly broadened abdomen, besides this especially recognized by the proportionally short, almost entirely black, remarkably robustly punctated elytra.

Black, fine and short, depressed, grayish-yellow haired; head and pronotum dull, elytra and abdomen somewhat glistening; distal posteri-

or margin of elytra and posterior margins of abdominal joints, as well as antennae, mouth-parts and legs reddish-yellow. Sometimes the elytra are brownish-red.

The head is at least as broad as, more often broader than elytra, considerably broader than pronotum, head and pronotum with very dense umbilical punctation; antennae thin; pronotum anteriorly hardly as broad as elytra, strongly narrowing posteriorly, the sides with four or five outstanding bristles; elytra short, scarcely longer than pronotum, with very robust or coarse and dense scabrous punctation; abdomen rather strongly broadened posteriorly, its first four free joints three times as broad as long, with robust and dense, the following with less dense punctation. L. 3.5-4 mm.

In the ♂ the abdominal fifth ventral joint in middle-line slightly grooved, the sixth like in the other species angularly incised at tip.

Distributed in Europe; with us it has heretofore only been found in the islands, mostly under leaves in woods and compost in gardens, occasionally in great numbers. - It is found in Skaane and in Øland (Thoms.), but not in Norway or Finland.

4. A. angustatus Payk.

(Payk. Mon. Staph. 36; Erichs. Käf. Mk. Br. I, 524; Gen. Spec. Staph. 640; Kraatz Ins. D. II, 723; Thoms. Skand. Col. II, 209; Muls. et Rey Brévip. 1878, 291; Ganglb. Käf. M. II, 541).

In relation to the preceding and following species especially identifiable by broader and longer elytra; from pulchellus namely separated by less slender and less robustly punctated abdomen, and from filiformis

inter alia by glistening elytra and abdomen.

Black, fine and short, depressed, grayish-yellow haired; head and pronotum dull, elytra and abdomen somewhat glistening; elytral posterior margin and posterior half of the suture coherently and rather broadly reddish-yellow; antennae, mouth-parts and legs, occasionally also posterior margins of abdominal joints yellow.

The head (Fig. 142) is almost as broad as elytra, distinctly broader than pronotum, and like same with very dense umbilical punctation; antennae thin; -----(Page 474) ----- pronotum rather oviform, anteriorly almost as broad as long, posteriorly rather strongly narrowed, on each side with four or five outstanding bristles; elytra considerably longer and broader than pronotum, and longer than their breadth together, with robust and dense punctation; abdomen not elongated, posteriorly feebly broadened, its first four free joints approximately three times as broad as long, with rather robust and dense, the following with less dense punctation. L. 3-3.5 mm.

Distributed in Europe; with us it is common as well on woodland ground as in the open field; in Sweden, the southern part of Norway and Finland it is rare.

5. A. neglectus Mark.

(Markel Germ. Ztschr. V, 239; Kraatz Ins. D. II, 722; Muls. et Rey Brévip. 1878, 294; Ganglb. Käf. M. II, 542).

Very closely allied to and like angustatus, from which it mainly is separated by, that the reddish-yellow color of the elytral posterior margin and at the suture is more extensive and most often occupies half

the posterior dorsal surface of elytra, that elytra are considerably shorter and narrower, scarcely longer and only a little broader than pronotum, about as broad as the head, and hardly longer than their breadth together, and that they are more robustly punctated. It is ordinarily a little smaller. L. 3 mm.

Distributed in Middle Europe; very rare in this country; taken mostly on damp ground (Bøllemosen at Copenhagen, Hillerød, Søborg; Hunderup, Fyen); said also to be found with ants (Ganglb.). It is found in Finland, but not in Sweden or Norway (Grill).

5. Group Euaesthetini.

(Euaesthetina Thoms. Skand. Col. III, 1861, 114. - Evesthétiens Muls. et Rey Brévip. 1878, 299. - Euaesthetinae Ganglb. Käf. M. II, 1895, 542).

Prosternum behind the fore-coxae is entirely chitinized, and prosternal spiracula covered; antennae 11-jointed, inserted at base of mandibles, under the corner of anterior margin of forehead far in front of eyes, which are small, round, rather strongly protruding, and are placed far back, at posterior margin of the head. Posterior coxae are "tap-shaped", prominent posteriorly, only narrowly separated.

The body of the European genera small; the head prominent and proportionately large, with very short, broad neck or posteriorly scarcely constricted; antennae short, clavate, inasmuch as the two (or more) last joints are more or less strongly thickened; anterior margin of labrum most often finely toothed; mandibles sickle-shaped; the last (fourth) joint is unusual small, finely spiculiform, often hardly visible.

Pronotum is most often heart-shaped; elytra rather short, hardly reaching out over metasternum; legs short; coxae small, fore-coxae rounded-conical, prominent and contiguous; tibiae without spines; all tarsi 4-jointed.

Of those to the group belonging few European genera only 1, Euaesthetus,

is distributed in Middle and North Europe. It is ascribed by Erichson and Kraatz et. al. to the group Stenini, but it differs from this by 4-jointed tarsi and much smaller eyes, also by almost contiguous hind coxae. - Its larva form is yet unknown.

87. Genus Euaesthetus Gravh.

(Gravh. Mon. 1806, 201; Erichs. Käf. Mk. Br. I, 574; Gen. Spec. Staph. 746; Kraatz Ins. D. II, 734; Thoms. Skand. Col. III, 115; Muls. et Rey Brévip. 1878, 303; Ganglb. Käf. M. II, 544).

In connection with the above stated group-characters, in regard to this genus the following must furthermore be added:

The body (Fig. 143) is short, slightly convex, rather uniformly broad; the head as broad as pronotum, constricted posteriorly, with very short, broad neck, head and pronotum all over with dense punctation; the eyes, which are rather small and protruding, also coarsely faceted, are placed far back, immediate at the head's posterior margin; antennae short, somewhat clavate, as their last two joints are strongly thickened, and much broader than the preceding; labrum is very broad and its anterior margin in its entire breadth finely toothed; mandibles with a robust tooth on inner margin; maxillary palpi are rather slender, their third joint clavate, the fourth scarcely visible.

Pronotum is heart-shaped, anteriorly almost as broad as elytra, and on the dorsum posteriorly with two longitudinal impressions, also a row of large punctures along the posterior margin. Elytra are together broader than long, with or without suture, together posteriorly broadly produced; abdomen slightly convex, margined, its first three free dorsal

joints transversally grooved depressed at base; legs rather short; hind tarsal first joint longer than each of the following, but shorter than the claw-joint.

To this genus only 3 Middle and North European species, also found with us. They live on damp meadow or marshy ground under moss and between roots of plants, and are often numerous in alluvium.

Key to Species.

1. Elytra without distinct suture-stripe, scabrously punctated. L. 1.5-2 mm. 1. E. scaber Gravh.
- Elytra with fine, yet distinct sutural stripe, not scabrously punctated..... 2.
2. Pronotum posteriorly with two narrowly separated, short grooves, and between these a very fine, carinated line (Fig. 143) L. 1.5 mm..... 2. E. ruficapillus Boisd.
- Pronotum posteriorly with two rather broadly separated grooves, interval without carinated line. L. 1.8 mm.....
..... 3. E. laeviusculus Mannh.

1. E. scaber Gravh.

(Gravh. Mon. 202; Erichs Käf. Mk. Br. I, 574; Gen. Spec. Staph. 746; Kraatz Ins. D. II, 736; Thoms. Skand. Col. III, 115; Muls. et Rey Brévip. 1878, 306. - bipunctatus Ljungh, Ganglb. Kaf. M. II, 545).

Most often a little larger than the two following species, and easily identified by the scabrous punctation of elytra.

Black or pitch-brown, rather dull; elytra and abdomen particularly

Fig. 143. Euaesthetus ruficapillus Boisd.

finely haired; antennae, mouth-parts and legs, sometimes also the head rusty-red.

The head is as broad as pronotum and together with same coarsely and very densely punctated; antennae short; the teeth of labrum scattered to some extent, and the middle ones in particular are considerably longer than in the following species; -----(Page 477)----- pronotum rounded-heart-shaped, anteriorly as broad as elytra, posteriorly on the dorsum with two feeble, short, straight longitudinal grooves; elytra most often a little shorter than pronotum, with coarse and very dense rugose scabrous punctation, and without distinct sutural stripe; abdomen rather thick, as broad as elytra, with especially dense and fine punctation. L. 1.5-2 mm.

In the ♂ the abdominal sixth ventral joint with a deeply rounded, the fifth at tip with a feeble incision, the fourth at middle of posterior margin with two teeth, separated by a small incision.

Distributed in North and Middle Europe on damp meadow ground, sometimes numerous in alluvium, but not everywhere in this country as common as the following species.

2. E. ruficapillus Boisd.

(Boisd. Lac. Faun. Ent. Paris I, 439; Erichs. Käf. Mk. Br. I, 575; Gen. Spec. Staph. 747; Kraatz Ins. D. II, 737; Thoms. Skand. Col. IX, 287; Muls. et Rey Brévip. 1878, 311; Ganglb. Käf. M. II, 545. - pullus Thoms. Skand. Col. III, 116).

A little smaller and narrower than the preceding and following species, recognized, inter alia, by the very dense, but not scabrous punctation of elytra.

Pitch-black or pitch-brown, feebly glistening; elytra and abdomen very finely haired; the head and often also pronotum brownish-red; antennae, mouth-parts and legs yellowish-red.

The head above the eyes as broad as pronotum (Fig. 143) the head and pronotum rather finely, and especially densely punctated; antennae short; the marginal teeth of labrum short, numerous, close set and of uniform length; pronotum heart-shaped, hardly as broad as elytra, posteriorly in front of base with two short, deep, narrowly divided grooves, and in middle-line before scutellum with a fine, short, carinated line, the punctures along posterior margin large and deep; elytra as long as pronotum, with very fine and dense, but not scabrous punctation, and with a distinct sutural stripe; abdomen especially finely and densely punctate. L. 1.5 mm.

In the ♂ the abdominal sixth ventral joint with a deep, angular incision, the fifth in middle of posterior margin with a small rounded protrusion, and is as well as the fourth joint grooved in the middle-line.

On damp meadow or marshy ground, distributed in Middle and North Europe, and in this country often numerous in alluvium. It is found in Skaane, but not in the northern part of Sweden, and is seemingly not found in Norway or Finland as reaching as far north as the two other species (Grill).

3. E. laeviusculus Mannh.

(Mannh. Bull. Mosc. 1844, I, 195; Kraatz Ins. D. II, 736; Thoms. Skand. Col. IX, 286; Muls. et Rey Brévip. 1878, 314; Ganglb. Käf. M. II, 546. - ruficapillus Thoms. Skand. Col. III, 116).

(Page 477)

It is easily separated from scaber by the rather strong lustre of the dorsal surface, by the less dense punctation of pronotum, and especially by the not scabrous punctation of elytra; furthermore these have a distinct sutural stripe. From ruficapillus, to which it is more

(Page 478)

closely allied and most like in color, it is separated by the following characters:

Ordinarily it is a little larger, broader and thicker; the head is darker brown, more unicolorous with the rest of the body, head and pronotum less densely punctated, and more glistening; pronotum is broader, anteriorly as broad as the elytra, rounded heart-shaped, its two longitudinal grooves posteriorly more broadly separated, and their interval without carinated middle-line; elytra are less densely, but somewhat more robustly punctated and their sutural stripe more deeply impressed and more distinct. L. 1.8 mm.

In the ♂ the abdominal sixth ventral joint at tip with a small, angular incision, which continues in a middle-groove; the fifth at middle of posterior margin with a small rounded incision.

Distributed like the preceding species and often in company with them, but much rarer in this country (Gravlev Enge south of Aalborg, Randers; Odense; Nykøbing F.; Copenhagen, Donse, Hillerød and several other places).

6. Group Stenini.

(Erichs. Käf. Mk. Br. I, 1837, 526; Gen. Spec. Staph. 607; Kraatz Ins. D. II, 732 (- Euaesthetus). - Stenina Thoms. Skand. Col. II, 210. - Stenides Muls. et Rey Brévip. 1884, 23. - Steninae Ganglb. Käf. M. II, 546).

Prosternum behind fore-coxae is entirely chitinized and its spiracula completely covered; antennae 11-jointed, feebly clavate, inserted free upon the forehead between the eyes, which are remarkably large; hind-coxae "tapshaped"*) and broadly separated.

The body is ordinarily rather cylindric and of peculiar compact appearance; head porrect, posteriorly constricted and with a short, broad neck, also with large, or very large, convex eyes; antennae rather short and thin, feebly clavate, inasmuch as their last three joints are smoothly thickened; anterior margin of the forehead obliterated; labrum entire and not toothed; mandibles sickle-shaped, with a long tooth inside of the tip; maxillary palpi slender, their last (fourth) joint spiculiform and often scarcely visible, the others elongate.

Pronotum without side-margins; elytra most often as long as the sternum, not marginated; abdomen most often marginated, in a number of species without side-margins and round; its ninth (seventh free) dorsal joint deeply and broadly incised, the sides of incision are thorn-formedly tapering, the tenth (eight free) between these distinctly like

abdominal tip. Legs are more or less slender; coxae small, fore-coxae rounded conically, contiguous, hind coxae separated by a rather broad lobe of the metasternum; tibiae without spines, tarsi 5-jointed.

In Europe only 2 genera are found, of which the species are partly also distributed in this country; they live preferably on damp ground.

Key to Genera.

1. The eyes do not occupy the entire sides of the head, and the temples are about as long as the eyes. Abdominal tip with two long distal bristles..... 88. Dianous Sam.
- The eyes occupy sides of head entirely, temples vanished. Abdominal tip without distal bristles..... 89. Stenus Latr.

88. Genus Dianous Sam.

(Samouelle Ent. Comp. 1819, 173; Erichs. Käf. Mk. Br. I, 527; Gen. Spec. Staph. 688; Kraatz Ins. D. II, 738; Thoms. Skand. Col. II, 211; Rey Brévip. 1884, 23; Ganglb. Käf. M. II, 548).

In form of body and appearance, in construction of antennae and maxillary palpi, also in number of tarsal joints etc., Dianous corresponds mainly with Stenus. -(Page 480)--- It differs from same mainly in that the strongly protruding, round eyes are only half as large as sides of the head, so that the temples, which are placed obliquely behind them become almost as long as the eyes, and that the abdominal seventh ventral joint is endowed with two long, stiff bristles at tip, which extend far out from the abdominal tip. The palpiger of labium is short, and cannot like in Stenus be produced by pressure or at will.

Abdomen is rather broadly margined.

To this genus only 1 European species, distributed in North and Middle Europe.

1. D. coeruleascens Gyllh.

(Gyllh. Ins. Suec. II, 463; Erichs. Käf. Mk. Br. I, 528; Gen. Spec. Staph. 689; Kraatz Ins. D. II, 739; Thoms. Skand. Col. II, 211; Fey Brévip. 1884, 25; Ganglb. Käf. M. II, 549).

Most like Stenus bipunctatus, but broader, with smaller eyes and longer antennae.

Eluish-black, rather glistening, with especially fine, whitish hair; elytra behind middle with a round, yellowish-red spot with violet edge; antennal tip often brownish.

The head above the strongly protruding, round eyes is much broader than pronotum, about as broad as elytra, with dense and rather fine punctation and with two longitudinal grooves between the eyes, separated by a convex interval; antennae slender, rather long; pronotum much narrower than elytra, a little longer than broad before the middle, narrowing posteriorly, at middle with rather sparse and robust, elsewhere dense and fine punctation, behind middle with a feeble obliquely placed impression on each side; elytra $1\frac{1}{2}$ times as long as pronotum, along the suture and inside of the humerus slightly depressed, with dense, smooth and somewhat more robust punctation than the head and pronotum; abdomen very densely and finely punctated. Tarsi are shorter than tibiae, their fourth joint is bilobed. L. 5-6 mm.

In the ♂ the abdominal sixth ventral joint at tip roundedly emarginate.

On stony slopes and brims of running water, often numerous, but us concerned, as a whole rare and very local. (Aalbaek and Brønderslev in Vendsyssel; Lethrabort; at Dynddalsbaekken in Bornholm).

89. Genus Stenus Latr.

(Latr. Carakt. Ins. 1796, 77; Erichs. Käf. Mk. Br. I, 528; Gen Spec. Staph. 689; Kraatz Ins. D. II, 740; Thoms. Skand. Col. II, 211; Rey Brévip. 1884, 28; Ganglb. Käf. M. II, 549).

A large, characteristic and easily identified genus with a rather cylindric, densely chitinated, more or less slender body of a black or grayish-black, often feebly lead-glistening color, ordinarily with robust or dense punctation, most often with short and very fine, whitish-gray hair. -- ----- (Page 481) -----The head (Fig. 144) is broad, as a rule broader than pronotum, with remarkable, very large, strongly protruding, convex eyes, which entirely occupies the sides of the head; constricted behind the eyes, forming a short and broad neck, most often bearing between the eyes two more or less distinctive longitudinal grooves, separated by a stronger or feebler convex interval. Antennae are fine, not long, inserted free on the forehead between the eyes, their first two joints more robust than the middle ones, the third elongated, longer than the others, the last three thickened, together forming a feeble club. The mandibles are covered by the prominent, entirely chitinated and undivided labrum; the second and third joint of maxillary palpi are elongate, the first half as long as the second, the third long and slender clavate, the fourth extremely small, scarcely visible in tip of the third. --F. 144. Stenus Juno Fabr. ♀. -----

The remarkable structure and slight movability of labium is peculiar for Stenus. (cf. Fr. Meinert: The protrusile tongue in Steninerne, m. 2 TavI., Kbhvn. 1887). Its upper part, tongue-support, which at tip bears the tongue with side-lobes and labial palpi (Fig. 145), is much produced, but normally placed, and when reposing is crammed into a tube of equal length, "tongue-sheath" (vagina linguae Mein.), of which the lower part is anchored to the inner side of mentum; only the labial palpi and side-lobes of the tongue are then visible. By a gentle pressure on ventral side of the head the tongue-sheath can be produced, and simultaneously the insheathed labium is thrust out. When the pressure ceases, both parts are again retracted. The test can be repeated often without injuring the animal. When the animal is killed in poison jar, it often in similar manner produces the labium and the entire tongue-sheath not having time to retract it (see Fig 145). It is not improbable that it, when alive and active can perform the same motion, which then perhaps may be interpreted as a reflex action.

Fig. 145. Head of a Stenus (ventral view) with produced labium.
g. Gula. m. Mentum. a. Tongue-sheath. b. Tongue-support. l. Tongue.
d. Side-lobes of tongue. p. lab. Labial palpi. p. mx. Maxillary palpi.

Pronotum is broadest at or before the middle, most often much narrower than elytra, narrowing posteriorly and with oblique, non marginated sides; elytra rarely shorter than metasternum; scutellum very small; abdomen more or less tapering, more in the ♂ than in the ♀, most often marginated, more rarely non-marginated and round, its first three-four

free dorsal joints depressed at base, this often with 1-4 fine, short longitudinal carinae. Legs are more or less slender, all tibiae without spines, the hindmost four tibiae in the ♂ however occasionally with a single short spine at tip on inner side (Fig. 147), all tarsi 5-jointed, either simple and narrow, or the third and fourth joint broad, cleft or bilobed; hind tarsi are sometimes as long as, or only a little shorter than the tibiae, but most often however considerably shorter than these, their first joint longer than the second, longer than, or as long as the claw-joint.

In the ♂ the abdominal sixth ventral joint always emarginate, or incised at tip; the preceding joints simple or differently formed.

The species live mostly on damp ground, a single one is steady guest of Formica rufa. Of the 130 European species, about half of these are found in this country. The larva of St. bipunctatus is known (Fig. 146, accd. to J. Schiødte).

Key to Subgenera and Species.

1. Abdominal sides distinctly and most often rather thickly margined; rarely (see Argus, fuscipes and pallipes) is this margin fine, and then sometimes in ♂ only distinct on the foremost joints...2.
- Abdomen round, its sides not margined; rarely (see crassus and nigritulus) may the foremost joints bear a suggestion of a fine, feeble side-margin..... 5.
2. Tarsal fourth joint simple, entire, and not or scarcely broader than the, entire, third joint; rarely (see Argus, humilis and carbonarius)

feebly bilobed, cleft to the middle.....3.

- Tarsal fourth joint deeply cleft and bilobed, broader than the third, which occasionally also is bilobed..... 4.

3. Hind tarsi slender and long, almost as long as the tibiae; their first joint longer than the claw-joint. The abdominal first three free dorsal joints with a fine carina at base in the middle-line or without carinae: 1. Subgenus Stenus s. str..... 6.

- Hind tarsi rather short, much shorter than tibiae, their first joint not longer than the claw-joint. Abdominal first three free dorsal joints at base most often with 1-4 short or very short longitudinal carinae, occasionally without carinae: 2. Subgenus Nestus Rey..... 22.

4. Hind tarsi rather broad and short, only about half as long as the tibiae, their first joint hardly longer than the claw-joint:

3. Subgenus Hemistenus Rey..... 42.

- Hind tarsi rather slender, distinctly more than half as long as the tibiae, their first joint much longer than the claw-joint:

4. Subgenus Mesostenus Rey..... 50.

5. Hind tarsal fourth joint entire or only very feebly bilobed, and not or scarcely broader than the third: 5. Subgenus Tesnus Rey.:55.

- Hind tarsal fourth joint very deeply cleft and bilobed, distinctly broader than the third: 6. Subgenus Hypostenus Rey..... 59.

1. Subgenus Stenus s. str.

6. Elytra each with a small, round reddish-yellow spot behind middle.:7.

- Elytra entirely black..... 10.
- 7. Legs entirely black.....8.
- Legs more or less reddish or brownish yellow.....9.

- 8. First joint of maxillary palpi and base of the second yellow; elytral spot placed closer to the suture than to the deflected side-margin. L. 5 mm.....1. St. biguttatus L.
- First joint of maxillary palpi yellow, the second like the third black. Elytral spot is larger than in biguttatus and not farther removed from the deflected side-margin than from the suture. L. 5-6 mm..... 2. St. bipunctatus Er.
- 9. Abdominal foremost free dorsal joint without longitudinal carinae at base. L. 4.5-5 mm..... 3. St. guttula Mull.
- Abdominal first three-four free dorsal joints at base with a short carina in middle-line. L. 6-7 mm.....4. St. bimaculatus Gyllh.
- 10. Abdominal first three-four free dorsal joints at base with a fine carina in middle-line..... 11.
- Abdominal foremost free dorsal joints at base without carinae.... 21.
- 11. Legs entirely black..... 12.
- Legs more or less reddish or brownish yellow, at least femoral base reddish-yellow..... 16.
- 12. Elytra distinctly longer than pronotum..... 13.
- Elytra not longer than pronotum..... 15.
- 13. Pronotum only a little longer than broad before the middle. Hind-

femora in the ♂ peculiarly strongly thickened. (Fig. 147).

L. 6 mm.....5. St. Juno Fabr.

- Pronotum distinctly longer than broad before the middle. Hind-femora in the ♂ only feebly thickened, scarcely thicker than in the ♀ 14.

14. Head very little narrower than elytra. Hind tibiae in the ♂ beneath middle on inner side obtusely angulate or feebly dentiformly dilated. L. 5.5 mm.....6. St. ater Mannh.

- Head much narrower than elytra. Hind tibiae in the ♂ simple.

L. 5mm..... 7. St. longitarsis Thoms.

15. Hind femora in the ♂ peculiarly strongly thickened, and on inner side with long hair; hind tibiae on inner side a little beneath middle dentiformly or obtusely angularly dilated, thereafter incurved. L. 5.5-6 mm.....8. St. calcaratus Scriba.

- Hind femora and hind tibiae in the ♂ simple. Species considerably smaller than calcaratus, of rather uniform breadth. L. 4-4.5 mm..... 9. St. gallicus Fauv.

16. Maxillary palpi entirely yellow or their third joint at tip only feebly brownish. 17.

- Maxillary palpal third joint and most often also tip of second pitch-brown or pitch-black..... 18.

17. Pronotum at middle-line very feebly, often indistinctly grooved.

Dorsal side of body almost dull. Abdominal ventral side in the ♂ at middle with only sparse long hair, in middle-line hardly

- smoothened. L. 5-6 mm..... 10. St. clavicornis Scop.
- Pronotum at middle-line posteriorly distinctly grooved. Body more or less glistening. Abdominal ventral side in the ♂ at middle with dense and long grayish-yellow hair, in middle-line especially of the middle- and hindmost joints strongly smoothed. L. 5 mm..... 11. St. providus Er. and v. Rogeri Kr.
18. The impression in the ♂ on the abdominal fifth ventral joint very smooth with a short carina in the middle-line, at tip obtuse-angularly incised. Ventral side of abdomen at middle with long grayish-yellow hair. Legs in both sexes brownish with predominantly reddish-yellow femora. L. 5 mm..... 12. St. lustrator Er.
- The impression on the fifth ventral joint of ♂ without carina in middle-line, at tip with rounded emargination. Legs in both sexes pitch-colored, only the inner half of the femora are red or yellowish-red..... 19.
19. Elytra $1\frac{1}{3}$ times as long as pronotum. L. 4.5 mm. : 13. St. scrutator Er.
- Elytra not or only insignificantly longer than pronotum..... 20.
20. Head not broader than elytra; these much broader than pronotum.
- Grooves of forehead feeble. L. 4 mm. : 14. St. sylvester Er. andexcubitor Er.
- Head almost broader than elytra; these a very little broader than pronotum. Grooves of forehead deep. L. 3-3.5 mm. : 15. St. proditor Er.
21. Legs reddish-yellow with pitch-brown femoral tip. Body with whitish yellow glistening hair. L. 5 mm..... 16. St. fossulatus Er.

- Legs brownish-black. Body not distinctly haired. L. 5 mm.....
..... 17. St. aterrimus Er.

2. Subgenus Nestus Rey.

- 22. Abdominal first three free dorsal joints with 4 small, more or less
distinct longitudinal carinae at base, or without distinct carinae..... 23.

- Abdominal first three free dorsal joints at base with 1 distinct
longitudinal carina in the middle-line..... 39.
- 23. Abdomen more or less elongate, ordinarily not strongly tapering,
the carinae of the foremost dorsal joints most often distinct. :24.
- Abdomen short, strongly conically tapering, the foremost dorsal
free joints without distinct carinae at base. Species very small.
..... 34.
- 24. Legs entirely black..... 25.
- Legs brownish-red or femoral inner part brownish red and the rest
of the legs brownish-black..... 35.
- 25. Maxillary palpi entirely black. Elytra and abdomen with rather long,
and distinctly silver-white-glistening hair. L. 4-4.5 mm.....
.....18. St. argentellus Thoms.
- Maxillary palpi yellow or brownish-red at base. Elytra and andomen
with short, sparse and fine whitish hair..... 26.
- 26. Elytra with very dense, especially posteriorly rugulous or confluent
punctation..... 27.

- Elytra with less dense, and not rugulous or confluent punctation.:28.
- 27. Head peculiarly small, scarcely broader than pronotum, and much narrower than elytra; these considerably longer than pronotum, which is without groove in middle-line. L. 3.5-4 mm.....
.....19. St. incrassatus Er.
- Head about as broad as elytra; these hardly longer than pronotum, which as a rule has a feeble, often indistinct groove in middle-line. L. 3.5-4 mm..... 20. St. buphthalmus Gravh.
- 28. Forehead between the eyes entirely flat, without distinct grooves. Pronotum with a fine, thorough groove in the middle-line....29.
- Forehead between eyes with two more or less distinct longitudinal grooves, separated by a convex interval. Pronotum either without groove in middle-line or the groove is abbreviated..... 30.
- 29. Thorax rather dull, very densely punctated, with distinct whitish-gray hair. L. 3.5-4 mm.....21. St. canaliculatus Gyllh.
- Thorax rather glistening, less densely punctated, indistinctly haired. L. 3.5-4 mm.....22. St. nitens Steph.
- 30. Grooves of forehead flat or rather flat, interval feebly convex...31.
- Grooves of forehead deep with almost carina-formed interval. Pronotum with sparse punctation. L. 3.5-4 mm.....
.....27. St. melanopus Steph.
- 31. Forehead between eyes broadly impressed, its grooves very feeble and their interval scarcely convex. Abdominal foremost free dorsal joints with very indistinct, almost obliterated carinae. L. 3-3.5 mm..... 23. St. morio Gravh.

- Forehead between eyes not impressed, rather slightly convex, its grooves and their intervals more distinctive than in morio.
Abdominal foremost free dorsal joints with small carinae, which however are distinct..... 32.
- 32. Elytra distinctly longer than pronotum, most often uneven..... 33.
- Elytra scarcely longer than pronotum, without distinct impressions.
L. 2.5-3 mm.....26. St. subdepressus Rey.
- 33. Pronotum somewhat longer than broad before the middle, feebly narrowing posteriorly. Abdomen finely and sparsely punctated.
L. 3-3.5 mm..... 24. St. melanarius Steph.
- Pronotum scarcely longer than broad before the middle, posteriorly rather strongly narrowing. Abdomen with rather robust and dense punctation. L. 2.5-3 mm..... 25. St. atratulus Er.
- 34. Elytra uneven. Legs entirely black. Pronotum as a rule with two obliquely placed impressions posteriorly. L. 2.5 mm.....
..... 28. St. pusillus Steph.
- Elytra smooth. Legs brownish-red or brownish-black with brownish-red femoral base. Pronotum often with a feeble cavate impression posteriorly at middle. L. 2-2.5 mm.....29. St. nanus Steph.
- 35. Abdomen rather broadly margined at sides..... 36.
- Abdomen finely, in the ♂ very finely margined..... 38.
- 36. Abdominal foremost free dorsal joints without distinct carinae at base. L. 3-3.5 mm..... 23. St. morio Gravh. (var.)
- Abdominal foremost joints with distinct carinae.....37.

37. Elytra distinctly longer than pronotum. Legs red or brownish red.

L. 2.5 mm..... 30. St. vafellus Er.

- Elytra hardly longer than pronotum. Legs brownish-black with brownish red femoral base. L. 3-3.5 mm..... 31. St. neglectus Gerh.

38. Tarsal fourth joint feebly bilobed, cleft about to the middle.

Elytra longer than pronotum. Legs brownish-black with brownish red femoral base. L. 3-3.5 mm..... 32. St. Argus Gravh.

- Tarsal fourth joint undivided. Elytra not longer than pronotum.

Legs brownish-red. L. 2.5 mm.....33. St. fuscipes Gravh.

39. Abdomen short, conically tapering. Species very small..... 40.

- Abdomen rather elongate, smoothly tapering. Species larger..... 41.

40. Legs yellowish-red. Antennae yellowish-red with pitch-brown claval joints. L. 2-2.2 mm.....34. St. circularis Gravh.

- Legs brownish-red or brownish-yellow with darker tarsi. Antennae most often black, sometimes brownish at middle. L. 2 mm.....

.....35. St. pumilio Er.

41. Elytra at suture shorter than pronotum. Legs brownish-red or yellowish red. L. 3-3.5 mm.....36. St. humilis Er.

- Elytra at the suture fully as long as pronotum. Legs black. L. 3

-3.5 mm..... 37. St. carbonarius Gyllh. with varieties.

3. Subgenus Hemistenus Rey.

42. Tarsal third joint deeply cleft and bilobed. Elytra long, parallel.

Body with dense and rather long, whitish glistening hair....43.

- Tarsal third joint broadened and emarginate, but not bilobed.
Elytra less long.. Body finely and most often sparsely haired.:46.
- 43. Tarsi black or brownish black..... 44.
- Tarsi reddish or brownish yellow..... 45.
- 44. Elytra uneven, less densely punctated. L. 5.5-6 mm.....
..... 38. St. pubescens Steph.
- Elytra almost smooth; very densely punctated. Species smaller and
narrower. L. 4.5-5 mm..... 39. St. binotatus Ljungh.
- 45. Longitudinal grooves of the forehead very flat. L. 4.5-5 mm.....
..... 40. St. pallitarsis Steph.
- Grooves of forehead more distinct than in pallitarsis, somewhat fo-
veate.. Species smaller, of more equal breadth. L. 4-4.5 mm..
..... 41. St. niveus Fauv.
- 46. Abdominal first three free dorsal joints at base with a short ca-
rina in middle-line. Legs black or pitch-black with brownish
femora. L. 3.5-4 mm..... 42. St. bifeveolatus Gyllh.
- Abdominal dorsal joints at base without carinae. Legs more or less
brownish or reddish yellow.....47.
- 47. Dorsal side of body dull or feebly glistening, very densely punc-
tated..... 48.
- Dorsal side of body rather strongly glistening, less densely punc-
tated..... 49.
- 48. Elytra distinctly longer than pronotum. L. 3.5-4.2 mm.....
.....43. St. picipes Steph.

- Elytra scarcely longer than pronotum. L. 3.5mm. :44. St. foveicollis Kr.
- 49. Legs reddish yellow with dark knees. Elytra very uneven. L. 4-4.5 mm..... 45. St. nitidiusculus Steph.
- Legs clearly and entirely reddish-yellow. Elytra smooth. Body narrow. L. 3-3.5 mm..... 46. St. flavipes Steph.
- 4. Subgenus Mesostenus Rey.
- 50. Abdomen rather thickly margined..... 51.
- Abdomen peculiarly finely margined, almost round. L. 3-3.5 mm... .. 52. St. pallipes Gravh.
- 51. Elytra at suture noticeably longer than pronotum..... 52.
- Elytra at suture not longer than pronotum, distinctly broadened posteriorly. L. 3-3.5 mm.....51. St. Erichsoni Rye.
- 52. Legs entirely reddish-yellow or only the knees narrowly brownish.:53.
- Legs predominatingly pitch-brown or yellowish-brown, only the inner half of femora reddish-yellow. L. 3.5 mm.....47. St. palustris Er.
- 53. Dorsal side of body rather glistening with ore- or bronze-reflection..... 54.
- Body dull or feebly glistening, without metallic reflection. L. 4-4.5 mm.....48. St. geniculatus Gravh.
- 54. Pronotum at middle not grooved, but smoothed. Abdomen with dense and rather robust punctation. L. 4 mm..... 49. St. flavipalpis Thoms.
- Pronotum at middle flatly grooved, the groove punctated. Abdomen less densely and especially posteriorly very finely punctated. L. 3.5-4 mm.....50. St. impressus Germ.

5. Subgenus Tesnus Rey.

55. Abdominal first three free dorsal joints with 4 small carinae at base. Hind tarsal fourth joint simple.....56.
- Abdominal foremost free dorsal joints without carinae at base.
- Hind tarsal fourth joint feebly cleft..... 58.
56. Head as broad as elytra. Thorax dull. L. 2.5 mm.: 53. St. opticus Gravh.
- Head narrower than elytra. Thorax somewhat glistening.....57.
57. Head peculiarly narrow, hardly broader than pronotum. Legs black.
- L. 2.5-3.5 mm.....54. St. crassus Steph.
- Head a little broader than pronotum. Legs pitch-brown or brownish red. L. 2.5 mm.....55. St. litoralis Thoms.
58. Elytra hardly longer than pronotum. Legs brownish-red. L. 3.5 mm.
-56. St. brunnipes Steph.
- Elytra distinctly longer than pronotum. Legs black. L. 3.5-4 mm.
-57. St. nigrutilus Gyllh.

6. Subgenus Hypostenus Rey.

59. Head small, only about half as broad as the broad, venter-shaped convex elytra. Abdomen strongly conically tapering. L. 2.5 mm.
- 64. St. fornicatus Steph.
- Head about as broad as elytra. Abdomen less strongly, or feebly tapering..... 60.
60. Antennal first or first two joints black..... 61.
- Antennal first joint as well as the nearest following and middle joints yellow..... 64.

61. Antennal first two joints black.....62.
- Antennal first joint black.....63.
62. Antennal middle joints and legs darkly brownish-red, almost black.
L. 3.5-4 mm.....58. St. latifrons Er.
- Antennal middle joints, and legs light brownish-red. L. 4-4.5 mm.
.....59. St. fulvicornis Steph.
63. Legs black with brownish-yellow tarsi. L. 4.5-5.:60. St. tarsalis Ljungh.
- Legs yellow with black knees. L. 5.5-6 mm..... 61. St. similis Herbst.
64. Thorax rather finely punctated. L. 5.5-6 mm....62. St. solutus Er.
- Thorax with peculiar coarse punctation. L. 5.5-6 mm.....
..... 63. St. cicindeloides Schall.

1. Subgenus Stenus s. str.

1. St. biguttatus Linn.

(Linne Syst. Nat. Ed. X, 422; Erichs. Käf. Mk. Br. I, 529; Gen. Spec. Staph. 690; Kraatz Ins. D. II, 742; Thoms. Skand. Col. II, 227; Rey Brévip. 1884, 32; Ganglb. Käf. M. II, 557).

A slender species with long tarsi, recognized mainly by the yellow spot on elytra, and the color of maxillary palpi and the legs.

Black with feeble bronze reflection, extremely finely, scarcely noticeably haired; elytra with a small, round, reddish-yellow spot behind middle and a little closer to the suture than to the deflected side-margin; first joint of maxillary palpi and base of the second yellow.

The head is scarcely as broad as elytra, densely and rather finely punctated, between the eyes strongly concave and in middle-line very

finely, often indistinctly carinated; antennae fine; pronotum almost only half as broad as elytra, longer than broad, with posteriorly slightly impressed sides and the dorsum with a short groove in the middle-line; the elytra longer than pronotum, and together with same very densely and rather coarsely, somewhat rugously punctated; -----(Page 487)----- legs slender and the hind tarsi about as long as tibiae. L. 5 mm.

In the ♂ the abdominal fourth ventral joint at tip feebly, the fifth more strongly semicircularly impressed, the sixth at tip angularly incised.

Distributed in Europe and North Asia; rather common in this country, on open sandy shores of lakes and water-courses, also on damp sandy slopes .

2. St. bipunctatus Er.

(Erichs. Käf. Mk. Br. I, 530; Gen. Spec. Staph. 691; Kraatz Ins. D. II, 743; Thoms. Skand. Col. II, 227; Rey Brévip. 1884, 35; Ganglb. Käf. M. II, 558).

Much like preceding species, but as a rule larger and more robust. The yellow spot on elytra is a little larger and is placed midway between the suture and the deflected side-margin; maxillary palpi darker and only their first joint is yellow; forehead is less concave and the middle-line more distinctly carinated. L. 5-6 mm.

In the ♂ the abdominal fourth and fifth ventral joints posteriorly more feebly impressed, but the sixth at tip more deeply incised.

Distributed, and in similar places as biguttatus, but with us hardly as common, more local.

The larva of St. bipunctatus is described and illustrated by J. Schiødte: Nat. Tidsskr. III. R. 8 B. 548, T. XVIII, 1-9 (see Fig. 146).

Fig. 146. Larva of Stenus bipunctatus Er. (after Schiødte).

3. St. guttula Müll.

(Müll. Germ. Mag. IV, 225; Erichs. Käf. Mk. Br. I, 531; Jen. Spec. Staph. 691; Kraatz Ins. D. II, 744; Thoms. Skand. Col. II, 228; Fey Brévip. 1884, 43; Ganglb. Käf. M. II, 558. - Kirby Gyllh. Ins. Suec. IV, 499).

Narrow and slender and smaller than the preceding species, further more easily identified by the yellow spot on elytra and color of the legs.

Black, with particularly fine whitish hair, somewhat glistening; elytra with a rather large, round, yellow spot behind the middle; antennae brownish at middle; maxillary palpi yellow, their third joint brownish; legs reddish-yellow, but the outer half of femora black; tibiae and tarsi most often yellowish brown.

Head as broad as elytra, with rather robust and very dense punctation, between eyes broadly impressed and with a short, smoothed, feeble carina in middle-line; antennae not long; pronotum only half as broad as elytra, oblong, slightly impressed from each side posteriorly, so that two feeble bulges are formed on the dorsum, all over with extremely dense and rather coarse punctation; elytra a little longer than pronotum, impressed around the scutellum, extremely dense and rather coarse rugous punctation; abdomen smoothly tapering, with rather dense and fine, posteriorly finer punctation; its dorsal joints without carina

---(Page 488)---

in middle-line; legs slender; hind tarsi almost as long as the tibiae.

L. 4.5-5 mm.

In the ♂ the abdominal fifth ventral joint slightly impressed and the sides of impression with long yellow hair; both the fifth and sixth ventral joints are slightly emarginated at tip.

On sandy brims of water-courses and on damp, sandy and clayey slopes, most often near the ocean; distributed like the preceding species, but in our country rarer and more local (Lønstrup, Blokhus, Frederikshavn, Aarhus, Odense, Lellinge, Neksø and Ro). It is found in southern Sweden (Thoms.).

4. St. bimaculatus Gyllh.

(Gyllh. Ins. Suec. II, 466; Erichs. Käf. Mk. Br. I, 532; Gen. Spec. Staph. 692; Kraatz Ins. D. II, 746; Thoms. Skand. Col. II, 212; Rey Brévip. 1884, 49; Ganglb. Käf. M. II, 560).

One of our largest and most structurally robust species, at least as large as Junco; recognized by the yellow spot on elytra, color of legs and carinated abdominal joints.

Black, feebly glistening, with extremely fine, short hair; elytra with a small, round, reddish-yellow spot on middle; antennae most often brownish at middle; maxillary palpi yellow, their third joint with brownish tip; legs yellowish-red, femoral outer part, base and tip of tibiae, also the tarsi pitchy-brownish.

The head is almost as broad as elytra, with rather coarse, dense punctation, forehead slightly impressed, with two rather deep grooves, separated by a convex interval; antennae fine; pronotum much narrower

than elytra, a little longer than broad, narrowing posteriorly, coarsely and very densely punctated, with an anteriorly and posteriorly abbreviated, fine groove in the middle-line; elytra only a little longer than pronotum, as coarsely, but not as densely punctated as same, somewhat uneven; abdomen of rather equal breadth, with dense and rather robust punctation, its first four free dorsal joints at base with a short carina in middle-line; hind tarsi hardly as long as tibiae. L. 6-7 mm.

In the ♂ the femora are somewhat thicker than in ♀; metasternum at middle slightly impressed; abdominal fourth ventral joint is at tip smoothed and slightly impressed, and at middle, where the impression begins, with a short, more or less sharp carina; the fifth is at middle more strongly impressed, the impression is smooth, but anteriorly with a short, sharp carina in middle-line, its sides are posteriorly sharply and dentiformly prolonged, posterior margin broadly roundedly incurved; the sixth ventral joint at tip deeply incised.

On damp, clayey slopes and on brims of water holes and water-courses; Distributed in Europe, but in this country rather rare and local; very rare in Sweden (Thoms.).

A very closely allied, but smaller and more slender species, St. stigmula Er., L. 4.5 mm., with proportionately longer pronotum, and in which the abdominal fourth and fifth ventral joints in the ♂ are smooth and impressed like those in bimaculatus, but without carina, is distrib-

uted in Middle Europe and also found in Middle Sweden (Thoms.), but heretofore not discovered in Denmark.

5. St. Juno Fabr.

(Fabr. Syst. Eleuth. II, 602; Erichs. Käf. Mk. Br. I, 533; Gen Spec. Staph. 694; Kraatz Ins. D. II, 747; Thoms. Skand. Col. II, 212; Rey Brévip. 1884, 56; Ganglb. Käf. M. II, 560. - boops Gravh. Mon. 226).

One of our largest and structurally robust species with entirely black legs, among the nearest allied species recognized by the proportionately short pronotum and longer elytra, further by the singular sex-characters of the ♂.

Deeply black, a little glistening; abdomen with ~~with~~ extremely short hair, the thorax scarcely haired; maxillary palpi yellow with brownish tip.

The head (Fig. 144) is broader than pronotum, and a very little narrower than elytra, rather coarsely and very densely punctated, forehead slightly impressed with two distinct longitudinal grooves, separated by a feeble convex interval; antennae fine; pronotum before the middle much narrower than elytra, narrowing posteriorly, a little longer than broad, somewhat uneven, with rather coarse and especially dense rugous punctation, posteriorly with a short, sometimes indistinct groove in the middle-line; elytra considerably longer than pronotum, somewhat uneven, with rather coarse, particularly dense and alternately directed rugous punctation; abdomen with rather fine and dense punctation, its first four, free dorsal joints at base with a short carina in middle-line; hind tarsi about as long as tibiae. L. 6 mm.

In the ♂ the femora, especially the hind femora (Fig. 147), are

strongly thickened, the latter on inner side undulated and nearest the base densely haired; the middle and hindmost tibiae on inner side at tip with a short spine, the hindmost tibiae a little beneath the middle with a small angular or dentiform protrusion, and beneath this slightly incurved. Metasternum flatly depressed with long grayish-yellow hair; the first five ventral joints finely carinated in middle-line, and the fourth furthermore feebly impressed; the fifth (Fig. 147 a)

Fig. 147. Hind leg of Stenus Juno Fabr. ♂.

Fig. 147a. Abdominal last four ventral joints in Stenus Juno Fabr. ♂.

behind the abruptly interrupted, sharp carina, is deeply cavate, smooth-

ened, and at tip with a rounded incision, of which the corners are dentiformly bent; the sixth ventral joint is at middle slightly impressed, smoothed and at tip deeply incised.

Distributed in Europe, North Asia and North America, and common everywhere in this country on damp ground.

6. St. ater Mannh.

(Mannh. Brach. 42; Erichs. Käf. Mk. Br. I, 534; Gen. Spec. Staph. 696; Kraatz Ins. D. II, 749; Thoms. Skand. Col. II, 213; Rey Brévip. 1884, 59; Ganglb. Käf. M. II, 561).

From Juno, to which it is very closely allied and completely like in color, it is separated especially by the following details:

It is a little smaller, notably narrower and more slender; grooves on forehead less distinct, pronotum narrower and longer, considerably

longer than broad, its grooves in middle-line longer and more distinct; elytra are in proportion to pronotum shorter, only a little longer than same, almost smooth and with less dense rugous punctation; abdomen is more slender, especially in the ♂, more densely punctated; hind tarsi longer. L. 5.5 mm.

In the ♂ the femora are not remarkably thickened, nor densely haired on inner side at base, the spine at tip of middle- and hind-tibiae is very small, indistinct; the dentiform protrusion beneath middle of hind tibiae is contrariwise larger than in Juno, and is placed closer to the tip, the curve beneath this is therefore shorter. Metasternum is not flatly depressed nor haired, ventral joints without carina in middle-line; the third joint is at tip feebly, the fourth more strongly impressed, the sides of impression with long, grayish-yellow hair, the fifth hollowed out, the cavity smooth glistening, its sides long-haired, sharp, posteriorly dentiform, posterior margin roundedly incurved; the sixth ventral joint is at middle smoothed and with two small bosses at base, at tip deeply incised.

Distributed like Juno, but in this country in most places rare and found only singly; it prefers higher, more dry ground than the preceding species.

7. St. longitarsis Thoms.

(Thoms. Ofv. Vet. Ac. Forh. 1857, 222; Skand. Col. II, 213; Rey Brévip. 1884, 65; Ganglb. Käf. M. II, 562).

Very closely allied to Juno, but especially to ater, of same deeply black color, and the thorax with a similar, very robust, especially dense

and especially on elytra rugous punctation. Is considerably smaller and only half as broad as Juno, and likewise smaller and more slender than ater. The head is much smaller and narrower than in either of these, but very little broader than pronotum, much narrower than elytra; pronotum somewhat longer than broad, but shorter than in ater, in middle-line, like same, anteriorly and posteriorly abbreviated grooved; elytra distinctly longer than pronotum, uneven like in Juno; abdomen, especially anteriorly, with dense and rather robust punctation; legs slender, -----(Page 491) ----- hind-tarsi a little shorter than in ater. L. 5 mm.

In the ♂ the hind femora and hind tarsi simple. Metasternum is slightly impressed and the impression with rather long, gray hair. Abdominal first three ventral joints are smooth, the fourth posteriorly at middle impressed and smooth, the fifth deeply impressed or hollowed out, the cavity at bottom smooth and glistening, its sides dentiformly dilated entad, posterior margin roundedly produced; the sixth ventral joint is not smoothed, but at middle finely punctated, at tip with short, angular incision.

Distributed in Middle Europe, everywhere, also with us, rare or very rare, and local; especially on heath and marshy woodland ground (Vestbjerg and Hunetorp Heath in Vendsyssel, Skørping, south of Aalborg; Odense; marsh at Hillerød). Also found in southern Sweden (Thoms.).

8. St. calcaratus Scriba.

(Scriba Berl. Ent. Ztsch. 1864, 380; Ganglb. Käf. M. II, 563).

From Juno, which it (cf. Ganglb.) resembles, it differs by a more robust structure of body, a broader head, more strongly impressed forehead, distinctly shorter and flatter elytra, which are only as long as pronotum, also by the sex-characteristics of ♂. L. 5.5-6 mm.

In the ♂ the hind femora are strongly thickened and inmost on inner side undulated and long-haired; hind tibiae on inner side a little below the middle with a robust, obtuse, dentiform dilation, and are beneath this incurved. Metasternum is impressed, and dense, long, yellowish haired. The venter is at middle increasingly broader smoothened and hollowed, sides of the cavity of third, fourth and fifth joints with long dense hair and increasingly sharply prominent margins, which on the fifth joint is prolonged dentiform, reaching out over the posterior margin, which is rounded produced; the sixth joint at tip is angularly incised.

As this species is found in North Germany, mainly in the region around Hamburg, it is not improbable that it also may be found in this country.

9. St. gallicus Fauv.

(Fauv. Faun. gallo-rhen. III, 248; Rey Brévip. 1884, 66; Ganglb. Käf. M. II, 563).

A rather uniformly broad, black-legged species, among the closest allied species mainly recognized by the robust, not rugous punctation of pronotum, by proportionally short elytra, and the sex-characters of ♂.

Black; thorax a little, abdomen more glistening, very finely haired; first joint of maxillary palpi and base of the second yellow, the remaining part of the second, and the third joint brownish-black, antennae at middle often darkly brownish.

The head is broader than pronotum, as broad as elytra, with rather robust and very dense punctation, forehead a little impressed, with two distinct, but not deep longitudinal grooves, separated by a convex interval; antennal third, fourth and fifth joint decreasing in length; pronotum at middle narrower than elytra, about as broad as long, fore and hind equally narrowing, with very robust and very dense punctation, in middle-line often with a feebly suggested groove, otherwise without impressions; elytra only as long as pronotum, with equally robust, but hardly as dense punctation as same, smooth; abdomen rather finely and not densely punctated, at middle almost smooth, its first four free dorsal joints at base with a very small carina in the middle-line; legs slender, hind tarsi a little shorter than tibiae. L. 4-4.5 mm.

In the ♂ the abdominal fifth ventral joint posteriorly impressed, sides of the impression are sharp, but are not reaching the posterior margin, which is broadly rounded emarginate; the sixth joint at tip with a small, triangular incision.

Two specimens, ♀ and ♂, which I have found in Skørping Forest, south of Aalborg, under damp fagot, I regard as being of this species, which otherwise is only known from a few places in northern France.

10. St. clavicornis Scop.

(Scopoli Entom. Carn. 1763, 100; Ganglb. Käf. M. II, 564. - boops Gyllh. Ins. Suec. II, 469; Thoms. Skand. Col. II, 215; Fey Brévip. 1884, 82. - speculator Boisd. Lac.; Erichs. Käf. Lk. Br. I, 545; Gen Spec. Staph. 706; Kraatz Ins. D. II, 761).

Larger and more robust than the nearest following species with part-

ly red- or brownish-yellow legs, and among these mainly characteristic by entirely yellow maxillary palpi and the in ♂ first four simple, i. e. not impressed ventral joints.

Black, dully glistening; thorax with indistinct, abdomen with especially fine and short hair; maxillary palpi clearly and entirely yellow; antennae at middle brownish; legs reddish yellow, femoral tip, the knees and base of tibiae, also the tarsi brownish.

Thorax all over with coarse and very dense, somewhat rugous punctuation; head as broad as elytra, between the eyes slightly impressed and with two longitudinal grooves, separated by a feebly convex interval; antennae fine; pronotum broadest at middle, narrower than elytra, longer than broad, posteriorly more narrowing than anteriorly, flatly convex, most often feebly grooved posteriorly in middle-line; elytra a little longer than pronotum, not entirely smooth; abdomen with rather robust and very dense, the last joints with finer and less dense punctuation; its first four free dorsal joints at base with a small carina at middle line; hind tarsi as long as tibiae. L. 5-6 mm.

In the ♂ the hind-femora rather strongly thickened and on inner side dorsally with long hair; metasternum at middle flatly depressed and with long grayish-yellow hair, the first four ventral joints at middle smooth, not impressed, occasionally somewhat long-haired, the fifth with hollow impression, the impression punctated and with long-haired, posteriorly sharp sides,----- (Page 493) ----- posterior margin rounded incurved; the sixth joint at tip with a rounded incision and is

at middle smoothed.

In this country common everywhere on damp field- and forest-ground, often numerous in alluvium. Distributed in Europe and North Asia.

11. St. providus Erichs.

(Erichs. Käf. Mk. Br. I, 546; Gen. Spec. Staph. 707; Kraatz Ins. D. II, 763; Thoms. Skand. Col. II, 216; Rey Brévip. 1884, 237; Ganglb. Käf. M. II, 565).

From clavicornis, which it very much resembles, and nearly corresponds with in size, form, color and punctation, it differs in the following details:

It is most often a little smaller and hardly as broad, rather glistering; maxillary palpi are as a rule yellow, but the yellow color is fulvous, especially the third joint is most often shaded with brown; legs are darker, inasmuch as the outer half of the femora including the knees and most of the tibiae, as well as the tarsi are darkly brownish; pronotal groove is at middle-line more distinct and longer; elytra a little shorter, these, the head and pronotum with equally robust and densely rugous punctation, as in clavicornis, but a little more uneven; abdomen is somewhat finer and less densely punctated. L. 5-5.5 mm.

In the ♂ the hind femora are thickened and haired also the metasternum impressed and long-haired as in clavicornis. The first five ventral joints with an, often however on the foremost joints indistinct, smooth middle-stripe, broadest posteriorly, and on each side of this with a row of long, incurved, grayish-yellow hair; the fifth joint furthermore abruptly and deeply impressed, the impression with specular shine,

and sharp, posteriorly tapering dentiform, long-haired sides and with roundedly produced posterior margin; the sixth joint is at middle polished and at tip with a rather deep incision.

Distributed in Europe, but as a whole seemingly rather local; most often found in the marshes and on damp forest ground north of Copenhagen, however also at Aalborg, Aarhus and Ry, also in Lolland and Falster.

A deeply black and more strongly glistening species, perhaps only a form of providus, is Rogeri Kr. (Ins. D. II, 764, Ganglb. Käf. M. II, 565). The punctuation of the thorax in Rogeri is still coarser than in providus, but not all over equally dense; pronotal groove in middle-line is rather deep, and the unevenness of elytra pronounced. L. 5-5.5 mm.

It is distributed in Middle Europe, and found inter alia at Hamburg and in Gotland, but heretofore not discovered in Denmark.

12. St. lustrator Er.

(Erichs. Käf. Mk. Br. I, 548; Gen. Spec. Staph. 712; Kraatz Ins. D. II, 764; Thoms. Skand. Col. IX, 191; Rey Brévip. 1884, 92; Ganglb. Käf. M. II, 566).

Most often a little smaller and narrower than providus, with proportionately broader head and with hardly as densely, but fully as coarsely punctated elytra, and darker maxillary palpi; identified mainly by the sex-characters of the ♂.

Black, glistening; thorax scarcely visible, abdomen sparsely and finely haired; maxillary palpi distally pitch-brownish, their first joint and base of the second yellow; femora reddish-yellow, their outer

part with knees, tibiae and tarsi more or less darkly brown.

Head much broader than pronotum, fully as broad as elytra, with dense and rather coarse, anteriorly rugous punctation, with two rather deep forehead grooves, separated by a flatly convex interval; antennae fine; pronotum before the middle much narrower than elytra, hardly as broad as long, narrowing posteriorly, with coarse and very dense, somewhat rugous punctation, occasionally with a feeble or only suggested groove in middle-line. Elytra are most often distinctly longer than pronotum, with very coarse and dense punctation, the punctation is coarser, but hardly as dense, and less rugous than in the two preceding species, inasmuch as the punctures are distinctly separated; abdomen at sides with rather robust and dense, along the middle and posteriorly finer and more isolated punctation, its first four free dorsal joints with a fine carina anteriorly in middle-line; legs slender, hind tarsi scarcely as long as tibiae. L. 5 mm.

In the ♂ the hind femora are hardly more robust than in the ♀, but on inner side at base with long hair, the middle-tibiae at tip on inner side armed with a small and short, yet distinct spine; metasternum flatly impressed, with sparse long hair; abdominal first four ventral joints at middle feebly flatly depressed, the depression bounded on each side with a row of long, dense, incurved, grayish-yellow hair; the fifth ventral joint is more deeply impressed than the preceding, the impression at bottom specular, with a short, somewhat obtuse carina in middle-line, its side-margins at middle prominently dentiform, but pos-

teriorly obliterate, posterior margin obtuse angularly incised; the sixth ventral joint is in middle-line smoothed and at tip with a small incision.

Distributed in Middle and North Europe, but everywhere, also in this country, rare or very rare and local (Skørping Forest at Aalborg; Hilerød Mose, Lyngby Mose, Bøllemosen and several other places in North Sjaelland).

13. St. scrutator Er.

(Erichs. Gen. Spec. Staph. 708; Kraatz Ins. D. II, 765; Thoms. Skand. Col. II, 216; Rey Brévip. 1884, 79; Ganglb. Käf. M. II, 566.- femoralis Erichs. Käf. Mk. Br. I, 547).

Closely allied to the nearest preceding species, about of same size as lustrator, but less glistening, with darker legs and maxillary palpi, more finely punctated thorax, longer, more convex and broader elytra, and much more densely punctated abdomen, also with differently formed sex-characters in the ♂; identified especially by proportionately long elytra and by the also posteriorly very dense punctation of abdomen.

Pure deep black, little glistening; thorax scarcely visible, abdomen with particularly fine hair; first joint of maxillary palpi and base of the second yellow, ----- (Page 495)----- the rest of the second joint and the third joint pitch-brownish; legs black or pitch-brown, the inner half of femora brownish-yellow or brownish-red.

Head much broader than pronotum, about as broad as elytra, with robust and very dense punctation, between the eyes impressed and with two distinct forehead grooves, separated by a slightly convex interval;

antennae fine; pronotum much narrower than elytra, hardly longer than the breadth before the middle, posteriorly rather strongly narrowing, with very robust and especially dense, somewhat rugous punctation, sometimes with a suggested or feeble groove in middle-line; elytra $1\frac{1}{3}$ times as long as pronotum, somewhat convex, anteriorly along the suture somewhat dented, ^{*)} fully as robustly, but hardly as densely punctated as pronotum; abdomen with rather fine and very dense punctation, the fifth and sixth free dorsal joints as densely punctated as the preceding joints, and distinctly denser than in the preceding species; its first four, free dorsal joints at base with a short carina in middle-line; legs slender; hind tarsi almost as long as tibiae. L. 4.5 mm.

In the ♂ the hind femora are not thicker than in the ♀ and on inner side not long-haired; the middle-tibiae at tip with only a particularly short spine; metasternum is slightly impressed, but not long-haired; abdominal fourth ventral joint is feebly impressed posteriorly and smoothed, the fifth in its entire length broadly and strongly impressed, the impression smoothed, its sides sharp, and posteriorly prominently denticiform, with sparse long hair, posterior margin broadly incurved; the sixth joint at middle with scattered punctation and at tip with a small acute incision.

Distributed in Middle Europe and Finland, also found at Ringsjön in Skaane (Thoms.). In Denmark it has heretofore been taken only in few numbers at Tisvilde Hegn and Arresø on wet ground under withered plants and in alluvium. (7. 10. 1910 and 4. 1911 auth.).

*) could also mean tuberculated - as the Danish word implies both. Translator.

14. St. sylvester Er.

(Erichs. Käf. Mk. Br. I, 547; Gen. Spec. Staph. 708; Kraatz Ins. D. II, 766; Thoms. Skand. Col. II, 217; Rey Brévip. 1884, 88; Ganglb. Käf. M. II, 567).

Much smaller than providus, less glistening, with darker maxillary palpi and legs, and less impressed, almost flat forehead, besides by this easily identified by the sex-characters of ♂.

Black; thorax feebly or dully glistening, indistinctly haired, abdomen more glistening and with very fine whitish hair; first joint of maxillary palpi and base of the second yellow, the second brownish at tip, the third pitch-brown; legs pitch-brown, femoral inner half, sometimes also middle of tibiae brownish red.

The head is broader than pronotum, but hardly as broad as elytra, with rather robust, extremely dense rugous punctation, forehead between

the eyes very feebly impressed, and its two longitudinal grooves as well as their intervals feeble, flattened out; antennae rather short; pronotum broadest at middle, considerably narrower than elytra, hardly longer than broad, posteriorly slightly impressed-narrowing, with coarse extremely dense, slightly rugous punctation, with an anteriorly and posteriorly abbreviated, more or less distinct, fine groove in the middle-line; elytra rather broad, hardly longer than pronotum, somewhat uneven, coarse and extremely dense, slightly rugous punctation; abdomen with rather robust and dense, posteriorly a little finer punctation, its first four free dorsal joints at base with a short carina in middle-

line, hind tarsi a little shorter than tibiae. L. 4 mm.

In the ♂ the femora are somewhat more robust than in the ♀, and hind femora on inner side at base with a short spine or tooth. Metasternum is flat, but scarcely long-haired; abdominal second and third ventral joints smooth in middle-line, the fourth posteriorly slightly impressed and smooth, the fifth more broadly and deeply impressed, posteriorly smooth, the sides of impression in both joints with sparse long hair, in the fifth joint posteriorly elongated acutely dentiform, posterior margin broadly roundedly incurved; the sixth joint is at middle smooth and at tip with an angular incision.

Distributed in North and Middle Europe, but everywhere rare; with us it is very rare (Slagelse, Odense), at the edges of water and on meadow ground in alluvium and in remains of haystacks. In Skaane it is found in the vicinity of Helsingborg (Thoms.).

Closely allied to St. sylvester Er. is St. excubitor Er. (Käf. Mk. Br. I, 551; Kraatz Ins. D. II, 769; Thoms. Skand. Col. II, 218; Ganglb. Käf. M. II, 568). It is about of same size, rather strongly glistening, more distinctly whitish haired, the thorax more robustly, but less densely punctated; the head is broader, as broad as elytra, pronotum without distinct groove in middle-line, elytra smooth. - In the ♂ only the abdominal fifth ventral joint is posteriorly impressed and smoothed and the posterior margin feebly emarginated; the sixth at middle with isolated punctation and at tip with a short angular incision. L. 3.5-4 mm. (Ganglb.). - It is known from the vicinity of Berlin and is also found

in the northern Skaane (Thoms.). Its occurrence in Denmark is therefore not unlikely.

15. St. proditor Br.

(Erichs. Käf. Mk. Br. I, 550; Gen. Spec. Staph. 713; Kraatz Ins. D. II, 768; Thoms. Skand. Col. IX, 192; Rey Brévip. 1884, 80; Ganglb. Käf. M. II, 568).

A rather small species of uniform breadth with dark legs and antennae, broad head, and narrow, rather short elytra.

Black, a little glistening; the thorax indistinctly, abdomen very finely haired; maxillary palpi pitch-brown with yellow base; legs pitch-black, femoral base ordinarily brownish or yellowish red.

The head is very broad, almost broader than elytra, with rather robust and dense punctation,--(Page 497)--- very large eyes, slightly impressed forehead, and deep forehead-grooves, separated by a roof-shaped, almost carinated interval; antennae fine. Pronotum is narrower than elytra, a little longer than broad, narrowing posteriorly and with feebly impressed sides, otherwise smooth, all over with very dense and robust punctation, often with a feeble or barely suggested groove in middle-line; elytra scarcely longer than pronotum, and not broader than long, rather smoothly, very robustly, but hardly as densely punctated as pronotum; abdomen especially in the ♀, of rather equal breadth, with rather fine and dense punctation, its first four free dorsal joints at base with a short carina in the middle-line; legs slender, hind-tarsi hardly as long as the tibiae. L. 3-3.5 mm.

In the ♂ the abdominal fifth ventral joint at middle slightly im-



pressed, the middle-line smoothed, posterior margin roundedly incurved, the sixth at tip with a short, angular incision.

Distributed in the greater part of North and Middle Europe; everywhere, also with us rare and local (Nørre Vosborg, Brønderslev, Raebild at Skørping, Randers; Odense; Bøllemosen and Strandmøllen at Copenhagen, Hillerød); mostly on damp meadow or marshy ground and in alluvium.

St. proditor Er. is somewhat similar to St. Argus Gravh., but is however easily separated from same, mainly in that the hind tarsi are longer, and elytra shorter, also that the abdominal first four free dorsal joints have only 1 small carina at base, while Argus has 4.

16. St. fossulatus Er.

(Erichs. Gen. Spec. Staph. 711; Kraatz Ins. D. II, 767; Rey Brévip. 1884, 71; Ganglb. Käf. M. II, 570).

A slender, rather large species, in form most like biguttatus; from the nearest preceding species especially separated by, that the abdominal first four free dorsal joints are without carina in middle-line, together with this furthermore easily identified by the color, and by the glistening hair vestiture of the body.

Black, lead-like glistening, distinctly, here and there whorled, whitish or light-yellow-glistening haired; maxillary palpi yellow, their third joint at tip sometimes brownish; legs reddish-yellow, but the outer part of femora as well as base and tip of tibiae and the distal joints of tarsi brownish-black.

The head is as broad as elytra, much broader than pronotum, with

dense and rather robust, somewhat rugous punctation, the forehead is impressed and with two flat grooves, separated by a flat, in middle-line often finely carinated interval; antennae not long; pronotum much narrower than elytra, broadest at middle, but hardly as broad as long, posteriorly impressed-narrowed, somewhat uneven, with rather robust and especially dense, somewhat rugous punctation, on each side of middle with a feeble, oblique impression; elytra longer than pronotum, rather uneven, with very dense, coarse, whorl-rugous punctation; abdomen slender, tapering, with rather robust and dense, posteriorly finer punctation, -----(Page 498)----- its dorsal joints at base not carinated; legs slender, hind tarsi about as long as tibiae.

L. 5 mm.

In the ♂ the abdominal fourth ventral joint posteriorly with feeble, the fifth with stronger impression, sides of the impressions long haired, posterior margin of the fifth broadly incurved, the sixth joint at tip angularly incised.

Distributed in Middle Europe; in this country very rare and local; on damp slopes and in clay-pits, sometimes numerously. (Møens Klint, Stevns Klint; Middelfart; Grejsdalen, clay-pits at Hobro).

17. St. aterrimus Er.

(Erichs. Käf. Mk. Br. I, 549; Gen. Spec. Staph. 712; Kraatz Ins. D. II, 767; Thoms. Skand. Col. IX, 196; Rey Brévip. 1884, 74; Ganglb. Käf. M. II, 571).

About of same size and slenderness as preceding species, and likewise with not carinated abdominal joints, furthermore distinctive by

its deeply black color, and its among the Stenini almost unique, myrmecophile manner of living.

Deeply black, somewhat glistening, almost invisibly haired; maxillary palpi brownish-black, their first joint and base of the second yellow; middle part of antennae and the legs pitch-brown or brownish black, inner part of femora most often brownish-red.

The head is hardly as broad as elytra, broader than pronotum, rather finely and not densely punctated, forehead slightly impressed, with two distinct, but not deep longitudinal grooves, separated by a slightly convex interval; antennae fine; pronotum broadest at middle, narrower than elytra, a little longer than broad, on the sides posteriorly impressed-narrowed, dorsally almost smooth, with rather robust, dense, not rugous punctation and with a short, most often distinct longitudinal groove at middle; elytra longer than pronotum, with robust and dense, not rugous punctation, anteriorly uneven; abdomen slender especially in the ♂, tapering, rather finely and densely punctated, its foremost free dorsal joints without carinae at base; legs slender, hind tarsi a little shorter than tibiae. L. 5 mm.

In the ♂ the abdominal fifth ventral joint at tip very feebly emarginated, the sixth not strongly incurved.

It lives in the mounds with Formica rufa and v. pratensis, is tolerated by the ants, and are presumably helping to keep the ant hill free from smaller parasites. Distributed in Middle and North Europe; in this country very rare (Geels Skov, Fuderhegn and several places in the for-

ests north of Copenhagen; Falster; Lundby Krat, near Aalborg).

2. Subgenus Nestus Rey.

18. St. argentellus Thoms.

(Thoms. Skand. Col. II, 222. - bupthalmus Gyllh. (nec Gravh.) Ins. Suec. II, 475. - carbonarius Erichs. (nec Gyllh.) Käf. Mk. Br. I, 535; Gen. Spec. Staph. 696; Kraatz Ins. D. II, 750. - palposus (Zett. ?) Ganglb. Käf. M. II, 571).

Somewhat shorter, but not narrower than ater, recognized mainly by entirely black maxillary palpi, also by the rather dense and coarse, silver-white glistening hair vestiture of the elytra and abdomen.

Dully black, proportionally long and coarse, rather dense, on elytra and abdomen denser in spots, silver-white hair; maxillary palpi, antennae and legs entirely black.

The head is somewhat broader than pronotum, nearly as broad as elytra, with rather robust and especially dense rugous punctation, with very feebly concave forehead and broad, feeble forehead-grooves, separated by a flatly convex interval; antennae rather short; pronotum broadest before the middle, narrower than elytra, considerably longer than broad, narrowing posteriorly, with rather robust and extremely dense rugous punctation, a little uneven, in middle-line feebly, anteriorly and posteriorly abbreviated grooved; elytra hardly longer than pronotum, somewhat uneven, with rather robust, extremely dense rugous punctation; abdomen anteriorly rather robustly, and very densely, posteriorly somewhat finer and not quite as densely punctated, its first four

free dorsal joints with four distinct carinae at base; hind tarsi rather slender. l. 4-4.5 mm.

In the ♂ the hind tibiae on inner side above tip with a small spine; abdominal fourth and fifth ventral joints are at middle feebly impressed and their posterior margin slightly incurved. the sixth at the middle-line feebly grooved and at tip broadly obtuse-angularly incised (Ganglb.).

Distributed in Middle and North Europe, especially on sandy river and lake shores; found at Ringsøen in Skaane. Heretofore not identified in this country.

A very closely allied, but smaller species, St. ruralis Er., with narrower head and not grooved ventral joints in the ♂, is distributed especially in the highlands, and found as well in southern Middle Europe as in Norway and Finland.

19. St. incrassatus Er.

(Erichs. Käf. Mk. Er. I, 541; Gen. Spec. Staph. 702; Kraatz Ins. D. II, 752; Thoms. Skand. Col. II, 220; Rey Brévip. 1884, 109; Ganglb. Käf. M. II, 573).

An easily identified species, especially distinguished by a remarkably small head, and proportionally broad and rather long, somewhat rugous punctated elytra.

Deeply black, very finely, on the thorax very sparsely, scarcely visibly haired; thorax very feebly glistening, abdomen somewhat glistening; first joint of maxillary palpi yellow.

The head is scarcely broader than pronotum, much narrower than the

elytra, robustly and very densely punctated, forehead hardly impressed and with two rather feeble grooves, separated by a flatly convex interval; antennae short; pronotum much narrower than elytra, fully as long as broad before the middle, anteriorly and posteriorly narrowing, with

robust and especially dense, somewhat rugous punctation, without groove in middle-line; elytra considerably longer than pronotum, uneven, with particularly dense, robust and especially posteriorly rugous or confluent punctation; abdomen rather finely and densely punctated, its first four free dorsal joints with four, very distinct carinae at base. L. 3.5-4 mm.

In the ♂ the middle and hind tibiae on inner side above the tip with a small spine; the abdominal fifth ventral joint is feebly emarginated, the sixth at tip rounded-incurved.

Distributed in Europe; rather rare in Denmark; in alluvium at lakes and on the ocean beaches under seaweed, numerous in spots.

20. St. buphthalmus Gravh.

(Gravh. Micr. 156; Erichs. Käf. Mk. Br. I, 536; Gen. Spec. Staph. 699; Kraatz Ins. D. II, 752; Thoms. Skand. Col. II, 220; Rey Brévip. 1884, 101; Ganglb. Käf. M. II, 572).

One in size and of appearance changeable species, best recognized by the particularly dense, somewhat rugous punctation of the thorax, and by the proportionally short elytra.

Deeply black; the thorax scarcely glistening, dorsally with extreme-

ly short and fine, scarcely visible hair, abdomen somewhat glistening, and as well as the ventral side with very fine and short, whitish hair vestiture; first joint of maxillary palpi yellow, the others brownish-black.

The head (Fig. 148) is broader than pronotum, nearly as broad as elytra, robustly and very densely punctated, the forehead between the eyes not impressed, but with two flattish grooves, separated by a feebly convex interval; antennae short; pronotum broadest before the middle, somewhat longer than broad, narrower than the elytra, narrowing posteriorly, with robust and extremely dense, somewhat rugous punctation, and as a rule with a feeble, sometimes indistinct, anteriorly and posteriorly abbreviated groove in the middle-line. Elytra are often scarcely longer than pronotum, somewhat uneven, with robust, particularly dense, especially posteriorly somewhat rugous and confluent punctation; abdomen rather finely and densely punctated, its first four free dorsal joints with four distinct, short carinae at base; tarsi short. L. 3.5-4 mm.

In the ♂ the middle- and hind-tibiae with an extremely small, hardly visible spine on inner side at tip; the abdominal sixth ventral joint is at tip flatly and broadly emarginate.

Distributed in Europe, and in this country very common everywhere on damp ground.

21. St. canaliculatus Gyllh.

(Gyllh. Ins. Suec. IV, 501; Erichs. Käf. Mk. Br. I, 542; Gen. Spec.

Staph. 704; Kraatz Ins. D. II, 745; Thoms. Skand. Col. II, 222; Rey Brévip. 1884, 121; Ganglb. Käf. M. II, 573).

Easily identified by the flat form of the forehead, the through running groove of pronotum, and the very densely punctated, dull, distinctly haired thorax.

Black; pronotum rather finely and densely, whitish haired, and due thereto dully gray, abdomen finely haired, somewhat glistening; first joint of maxillary palpi yellow, the second brownish-black.

The head is broader than pronotum, about as broad as elytra, with entirely flat, not impressed forehead without distinguishable grooves, robust and especially dense, slightly rugous punctation; antennae short; pronotum broadest before the middle, hardly as broad as long, narrower than elytra, posteriorly narrowing, robustly and especially densely punctated, with one as a rule through-running and distinct groove in the middle-line; elytra somewhat longer than pronotum, smooth, with robust and very dense, not rugous punctation; abdomen rather finely and densely punctated, its first four free dorsal joints with four small carinae at base; tarsi somewhat longer and more slender than in the preceding species. L. 3.5-4 mm.

In the ♂ the abdominal sixth ventral joint at tip rounded incurved.

Distributed in Europe, North Asia and North America, it is not rare in this country at lake shores in alluvium, on damp moor- and forest-ground, also on ocean beaches.

22. St. nitens Steph.

(Steph. Ill. Brit. V, 300; Ganglb. Käf. M. II, 574. - aemulus Erichs.

Káf. Mk. Br. I, 541; Gen. Spec. Staph. 704; Kraatz Ins. D. II, 756).

Rather slender and cylindric, in appearance not unlike proditor, but closely allied to the preceding species, with which it corresponds in regard to the flat form of the forehead and the through-running groove of pronotum, but however easily is separated from by the broader head, longer antennae, more robust and less dense punctation, more glistening thorax etc.

Black, rather glistening, thorax with especially fine and sparse, abdomen more distinct and denser, grayish-white hair vestiture; first joint of maxillary palpi yellow, the second brownish-yellow.

Head as broad as elytra, with almost flat forehead and scarcely suggested forehead-grooves, robust and especially dense, somewhat rugous punctation; antennae fine and slender; pronotum much narrower than elytra, oblong, with slightly rounded sides, anteriorly and posteriorly narrowing, very robust and dense punctation and with one as a rule through-running groove in the middle-line; elytra very little longer than pronotum, with equally dense and fully as coarse and deep punctation as same, smooth; abdomen with rather fine and dense punctation, its first four free dorsal joints with four distinct, small carinae at base. The legs are rather slender. L. 3.5-4 mm.

In the ♂ the abdominal fifth ventral joint posteriorly slightly impressed, and as well as the sixth feebly emarginate at tip.

Here and there in Middle and North Europe; distributed in our coun-

try, but rather rare; in alluvium at marshes and meadows (Northeastern Sjaelland; Falster; Odense; Aarhus, Gravlev Meadows south of Aalborg, and several other places).

23. St. morio Gravh.

(Gravh. Mon. 230; Erichs. Káf. Mk. Br. I, 537; Gen. Spec. Staph. 700; Kraatz Ins. D. II, 757; Rey Brévip. 1884, 126; Ganglb. Káf. M. II, 574. - inaequalis Rey Brévip. 1884, 111).

From buphthalmus the species morio is separated mainly by the less dense, not rugous punctation and more distinct vestiture of the thorax, also by longer elytra, and that the small carinae of the abdominal foremost free dorsal joints most often are very indistinct.

Black, somewhat glistening with grayish reflection, very fine and short, yet distinctly gray-haired; maxillary palpal base yellow.

Head almost as broad as elytra, broader than pronotum, very dense and rather robust punctation, forehead smoothly and feebly impressed, with two very feeble, almost obliterated grooves; antennae rather short; pronotum narrower than elytra, broadest before the middle, narrowing posteriorly, smoothly convex, robustly and very densely punctated, without groove in the middle-line. Elytra are distinctly longer than pronotum, rather smooth, slightly convex, with a feeble impression at middle of side, very robustly and densely punctated; abdomen anteriorly with rather fine and dense, posteriorly finer punctation, its foremost free dorsal joint with four very small, often indistinct or obsolete carinae at base; second joint of hind tarsi distinctly longer than the third.

L. 3-3.5 mm.

In the ♂ the hind tibiae on inner side at tip with a very small spine; the fifth abdominal ventral joint is posteriorly slightly impressed and more densely haired, posterior margin very feebly produced, the sixth at tip obtuse angularly incised.

Distributed in Middle Europe, and also found in Norway and on the strand at Falsterbro in Skaane (15. 5. 1910, P. Eichelbaum); in this country found at Sønderborg (Wustnei).

Of a somewhat deviating form, seemingly of this species, a small series of specimens in Løvendal's collection, incorrectly placed as St. subglaber Thoms., is found in Zool. Mus., Copenhagen. The antennae in most of the specimens are brownish toward the tip or at the middle, legs darkly brown with brownish-red femora. On the abdominal foremost free dorsal joint the small carinae at base seems entirely obliterated. Otherwise the above description of morio Gravh. corresponds in every detail.

Some of these specimens are found on the strand at Gjedser (Schjødte, Benson), others at Frederikshavn (Schjødte). - (cf. Dr. F. Meinert's record of our Stenus species in Entom. Medd. II, B. 1889-90. S. 231).

24. St. melanarius Steph.

(Steph. Ill. Brit. V, 299; Ganglb. Käf. M. II, 575. - cinerascens Erichs. Käf. Mk. Br. I, 539; Gen. Spec. Staph. 701; Kraatz Ins. D. II, 759; Rey Brévip. 1884, 113. - nigripalpis Thoms. Skand. Col. II, 221).

Closely allied to morio, but with smaller head, slightly convex forehead, shorter antennae and hind tarsi, and less distinctive sex-charac-

ters in the ♂; as a rule the color is more black, and the hair vestiture less distinct.

Black; thorax somewhat glistening, extremely finely and sparsely haired, abdomen rather glistening, more distinctly haired; first joint of maxillary palpi brownish-yellow, sometimes darkly brownish.

Head a little broader than pronotum, distinctly narrower than elytra, rather robustly and very densely punctated; forehead between the eyes not impressed and with two longitudinal flat grooves, separated by a rather broad, slightly convex interval; antennae rather short; pronotum oblong, broadest before middle, and there considerably narrower than elytra, with slightly rounded sides, posteriorly feebly narrowed, robust and very dense punctation, without groove in the middle-line, but posteriorly most often slightly depressed; elytra longer than pronotum, robustly and very densely punctated, as a rule with a distinct impression at scutellum along the suture, a second and feebler one mesad of the humeri, and an indistinct one at middle of sides; abdomen with fine isolated punctation and its foremost free dorsal joint with four small carinae at base; tarsi short, second joint of hind tarsi a very little longer than the third. L. 3-3.5 mm.

In the ♂ the hind tibiae on inner side at tip with a very small spine; abdominal sixth ventral joint is at tip slightly emarginate.

Distributed in Middle Europe and also found in Norway and Skaane; in Denmark it is rare; on damp forest- and field-ground, under leaves and in alluvium at ponds and lakes (Aalborg, Faebild, Panders, By;

Odense; Copenhagen, Hillerød and several other places in North Sjaelland).

25. St. atratulus Er.

(Erichs. Käf. Mk. Br. I, 540; Gen. Spec. Staph. 701; Kraatz Ins. D. II, 759; Thoms. Skand. Col. II, 221; Rey Brévip. 1884, 117; Janglb. Käf. M. II, 575. - longipennis Rey Brévip. 1884, 116).

Much like melanarius, but smaller, with proportionately coarser, on abdomen much more robust punctation; the interval between grooves of forehead more convex, pronotum posteriorly more strongly narrowing, and elytra most often distinctly longer.

Black, lead-like glistening, with fine, whitish hair; first joint of maxillary palpi brownish.

The head is a little broader than pronotum, about as broad as elytra, robust and very dense punctation; forehead between eyes not impressed, but slightly convex and with two flat grooves, separated by a distinctly convex interval; -----(Page 504)----- antennae short; pronotum narrower than elytra, as long as broad before the middle, rather strongly narrowing posteriorly, with robust and very dense punctation, most often somewhat depressed posteriorly on dorsum, and sometimes with a suggested groove in middle-line; elytra distinctly, often fully $\frac{1}{2}$ longer than pronotum, with robust and very dense punctation, somewhat uneven; abdomen rather robustly and rather densely punctated, its foremost free dorsal joint with four small carinae at base; tarsi short, their second joint scarcely longer than the third. L. 2.5-3 mm.

In the ♂ the posterior margins of the abdominal fifth and sixth ventral joints are feebly incurved.

Distributed in Middle Europe, also found in Skaane and Norway; in Denmark very rare (Klitmøller in Thy, Agger; Bellevue's garden near Copenhagen at a hothouse bench in great numbers (Dr. Meinert 17. 6. 65); at Rosmandebaek in Bornholm).

In longipennis Rey the hair vestiture of the body seems denser and more conspicuous, and the elytra somewhat longer than in atratus Er., rather parallel; but otherwise seems not to deviate from this species.

26. St. subdepressus Rey.

(Rey Brévip. 1884, 124; Ganglb. Käf. M. II, 575. - explorator Fauv. Faun. Gallo-rhén. III, 254).

Closely allied to both the preceding species, but with shorter, almost entirely smooth elytra.

Black, glistening; thorax extremely finely, abdomen distinctly, whitish haired; first joint of maxillary palpi brownish-red.

The head is broader than pronotum, as broad as elytra, rather robustly and densely punctated; forehead between eyes not impressed and with two flattish grooves, which are separated by a slightly convex interval; antennae short; pronotum oblong, narrower than elytra, broadest before the middle and with rounded sides, narrowing posteriorly, with robust and very dense punctation, without noticeable or distinct groove in the middle-line, but flatly depressed at middle posteriorly. Elytra are very little or hardly longer than pronotum, smooth, without distinct impressions, robust and densely punctated; abdomen anteriorly with rather fine and dense, posteriorly finer punctation, its

foremost free dorsal joint with four small carinae at base; tarsi short, second joint of hind tarsi longer than the third. L. 2.5-3 mm.

In the ♂ the abdominal sixth ventral joint at tip slightly emarginated (Rey).

Distributed in Middle Europe. - 2 species in my collection, presumably found at Randers (O. Jakobsen), corresponds very well with the above description, however pronotum in my specimens seems somewhat more strongly narrowed posteriorly, and is hardly longer than the breadth before the middle (cf. atratus Er.).

27. St. melanopus Marsh.

(Marsh. Ent. Brit. 528; Ganglb. Käf. M. II, 576. - nitidus Loisd. Lac. Faun. Ent. Paris I, 450; Erichs. Gen. Spec. Staph. 703; Kraatz Ins. D. II, 756; Thoms. Skand. Col. II, 225; Rey Brévip. 1884, 104).

A characteristic species, recognized by a rather narrow head, deep forehead grooves, and by rather isolated punctation and strong lustre of the thorax.

Glistening black, very finely and sparsely, whitish haired; first joint of maxillary palpi yellow.

The head but very little broader than pronotum, considerably narrower than elytra, rather robust and not densely punctated; forehead between eyes scarcely impressed, but with two rather deep, forwardly confluent longitudinal grooves, separated by an almost carinated interval; antennae short; pronotum hardly longer than broad before the middle, narrower than elytra, rather strongly narrowing posteriorly, robust and rather isolated punctation, at a rule with a short and deep groove posteriorly

in middle-line; elytra distinctly longer than pronotum, punctated about like same - intervals between punctures smooth and larger than the punctures - and with a distinct impression anteriorly along the suture, a more feeble one mesad of the humeri, and a feeble one on sides back of these; abdomen rather finely and sparsely punctated, its first three free dorsal joints with four small, feeble carinae at base; hind tarsi short, their second and third joints of equal length. L. 3-3.5 mm.

In the ♂ the hind tibiae on inner side at tip with a small spine; the abdominal sixth ventral joint is at tip feebly emarginate.

Distributed in Middle and North Europe, in this country rare; found mainly on the strand or near this on open, damp ground (at Frederikshavn, Aalborg, Esbjerg; Copenhagen; several places in Lolland-Falster).

28. St. pusillus Steph.

(Steph. Ill. Brit. V, 301; Erichs. Käf. Mk. Br. I, 544; Gen. Spec. Staph. 705; Kraatz Ins. D. II, 761; Thoms. Skand. Col. II, 229; Rey Brévip. 1884, 134; Ganglb. Käf. M. II, 577).

A small species, easily identified by deep grooves of forehead, uneven elytra and pronotum, not distinctly carinated abdominal joints, and by entirely black legs.

Deeply black, somewhat glistening, the thorax indistinctly, abdomen especially finely and sparsely haired; first joint of maxillary palpi yellow.

The head is broader than pronotum, a little narrower than elytra, robustly and very densely punctated, and with two deep, forwardly converging forehead grooves, separated by a roof-shaped interval; antennae

short; pronotum broadest at middle, much narrower than elytra, fully as broad as long, with strongly rounded sides, posteriorly contracted and more strongly narrowing than anteriorly, with robust and especially dense punctation and with two obliquely placed, somewhat foveate-formed impressions on dorsum posteriorly; elytra about $\frac{1}{3}$ longer than

pronotum, somewhat more robustly and especially densely rugosely punctated, rather uneven; abdomen posteriorly strongly tapering, anteriorly with rather robust and dense, posteriorly finer punctation, its foremost free dorsal joint without distinct carinae at base; hind tarsi short, their second and third joints about equally short. L. 2.5 mm.

In the ♂ the abdominal sixth ventral joint at tip slightly emarginate.

Distributed in Europe, and in this country rather common on damp ground, often numerous in alluvium; in Sweden and Norway more rare.

29. St. nanus Steph.

(Steph. Ill. Brit. V, 301; Ganglb. Käf. M. II, 578. - declaratus Erichs. Käf. Mk. Br. I, 557; Gen. Spec. Staph. 717; Kraatz Ins. D. II, 774; Thoms. Skand. Col. II, 229; Rey Brévip. 1884, 155).

A small species, like the preceding without carinae on the abdominal joint, and strongly tapering abdomen, also with deep forehead grooves, but with smooth elytra and brownish legs.

Black, dull or dully glistening, especially fine and short, whitish haired; base of maxillary palpi brownish-yellow; legs brownish-red, often brownish-black, and only the base of femora reddish.

The head a little broader than pronotum and narrower than elytra, rather robust and dense punctation; forehead not impressed, but with two deep, anteriorly converging grooves, separated by a roof-shaped interval; antennae short; pronotum distinctly narrower than elytra, broader than long, with strongly rounded sides, posteriorly contractedly narrowing, all over with robust and especially dense punctation, often with a feeble foveate impression posteriorly at middle; elytra smooth, $\frac{1}{3}$ longer than pronotum, punctated like same; abdomen strongly, almost cuneiform, tapering, with rather fine and dense punctation, its foremost free dorsal joint without distinct carinae at base; tarsi short, second joint of hind tarsi a little longer than the third. L. 2-2.5 mm.

In the ♂ the abdominal sixth ventral joint at tip very feebly emarginated.

Distributed in Europe; in Denmark common on damp ground, often numerous in alluvium; in Sweden and Norway as well as in Finland common.

30. St. vafellus Er.

(Erichs. Käf. Mk. Br. I, 554; Gen. Spec. Staph. 715; Kraatz Ins. D. II, 771; Thoms. Skand. Col. II, 224; Rey Brevip. 1884, 148; Ganglb. Käf. M. II, 579).

A small species, identified especially by broad head and brownish-red legs. From Argus, which it somewhat resembles in appearance, it is separated inter alia by this, that abdomen is more thickly margined, and the legs as a rule lighter in color.

Black, somewhat grayish glistening, very finely, whitish haired; first joint of maxillary palpi yellow, the second brownish; legs red or brownish red.

The head is as broad as, or even broader than elytra, rather robustly and densely punctated; forehead not impressed, but with two flat, broad longitudinal grooves, and between these feebly, yet most often distinctly convex; antennae short; pronotum much narrower than elytra, before the middle almost as broad as long and with rounded sides, posteriorly rather strongly narrowing, all over with robust and very dense punctation, sometimes with a suggested or feeble impression posteriorly at middle; elytra distinctly longer than pronotum, fully as robustly but hardly as densely punctated as this, only feebly convex and almost smooth; abdomen rather thickly margined, finely but not densely punctated, its foremost free dorsal joint with four small carinae at base; hind tarsi rather slender, their second joint longer than the third.

L. 2.5 mm.

In the ♂ the abdominal sixth ventral joint is at tip feebly emarginate.

Distributed in North and Middle Europe; with us it is everywhere rather common, sometimes numerous in alluvium, especially on meadow and marsh ground.

Very closely allied to vafellus is cautus Kr. (Ins. D. II, 770; ? Erichs. Käf. Mk. Br. I, 553) from Middle Europe, which apparently falls together with macrocephalus Aube (cf. Rey Brévip. 1884, 146). It is a little larger and more robust than vafellus, with darker, brownish-red legs and anteriorly more strongly rounded pronotum. In the ♂ the abdominal fifth ventral joint is slightly emarginate, and before the emar-

gination feebly, semicircularly impressed and is here more densely haired and very finely and densely punctated; the sixth is at tip obtuse angularly produced. - In macrocephalus Aube is furthermore the elytra shorter; hardly longer than pronotum. L. 3 mm.

None of these are seemingly found in this country; but the following species is undoubtedly closely allied to macrocephalus and through it to cautus.

31. St. neglectus Gerh.

(Gerhardt; Reitter Fauna germanica II, 1909, 159).

Among the species with reddish- or darkly brownish legs especially recognized by proportionately short elytra.

Black, somewhat glistening, with very fine and sparse, whitish hair; first joint of maxillary palpi yellow, the second brownish yellow; legs black with darkly brownish or brownish-red or red femora.

The head is considerably broader than pronotum, as broad as elytra at base, robustly and very densely punctated, between the eyes scarcely depressed, but with two flat forehead-grooves, separated by a slightly convex interval; antennae rather short, their third joint considerably longer than the fourth; pronotum considerably narrower than elytra, a little longer than broad before the middle, with anteriorly slightly rounded sides, posteriorly not strongly narrowing, convex, very robust and very dense punctation, without groove in middle-line and without noticeable impressions; elytra scarcely or very little longer than pronotum, together as broad as long, slightly broadened posteriorly, very

robustly and very densely punctated, smooth; abdomen anteriorly about as broad as elytra, rather convex, posteriorly narrowing, with rather fine and not dense, especially at middle and posteriorly, scattered punctation, rather thickly side-margined, its foremost free dorsal joint at base with four small, yet distinct carinae; hind tarsi rather slender, their second joint distinctly longer than the third. L. 3-3.5 mm.

In the ♂ the femora are somewhat thicker than in the ♀, middle- and hind-tibiae at tip on inner side with a small spine; metasternum is at middle impressed, abdominal fifth ventral joint at middle posteriorly feebly impressed and slightly emarginate, the sixth at tip roundedly or obtuse angularly incurved.

Of this, here described species only a few specimens are heretofore found in this country, at Langesø in Fyen (17. 8. 1905. N. P. Jørgensen), undoubtedly synonymous with neglectus Gerh. from Schlesien, closely allied to macrocephalus Aube (? cautus Kr.).

32. St. Argus Gravh.

(Grach. Mon. 231; Erichs. Käf. Mk. Er. I, 552; Gen. Spec. Staph. 714; Kraatz Ins. D. II, 770; Thoms. Skand. Col. II, 224; Rey Brévip. 1884, 160; Ganglb. Käf. M. II, 582).

A rather small, slender species, recognized by brownish femora, rather convex elytra, and somewhat round, more or less finely margined abdomen, also by the feebly bilobed fourth joint of the tarsi.

Black, somewhat glistening, very finely whitish-gray haired; first joint of maxillary palpi yellow; legs black with brownish-black or brown,

at base most often brownish-red femora; sometimes the tibiae are also brownish.

Head broader than pronotum, almost as broad as elytra, with robust and dense punctation; forehead between the eyes not impressed, but with two feeble, often nearly obliterated grooves, separated by a rather broad, slightly convex interval; antennae rather short; pronotum narrower than elytra, at middle hardly as broad as long, posteriorly narrowed and the sides anteriorly slightly rounded, convex, robustly and very densely punctated, without impressions and without groove in middle-line; elytra distinctly longer than pronotum, punctated like same, smooth, distinctly convex; abdomen more or less tapering, rather convex, most often finely margined, rather fine and dense, posteriorly somewhat finer punctation, its foremost free dorsal joint at base with four small carinae; tarsi rather slender, their fourth joint somewhat broadened, feebly bilobed, divided to middle; hind tarsal second joint a little longer than the third. L. 3-3.5 mm.

In the ♂ abdomen is more narrowing and finer margined than in the ♀, almost round; abdominal fifth ventral joint hardly emarginate, the sixth at tip very feebly incurved.

Distributed in North and Middle Europe; in Denmark it is as a whole rather rare, but here and there on damp forest or meadow ground and in alluvium sometimes numerous.

33. St. fuscipes Gravh.

(Gravh. Micr. 157; Erichs. Käf. Mk. Br. I, 555; Gen. Spec. Staph. 716; Kraatz Ins. D. II, 772; Thoms. Skand. Col. II, 225; Rey Brévip. 1884, 151; Ganglb. Käf. M. II, 579).

A small species, closely allied to Argus and like this with finely margined abdomen, but with shorter elytra, more robustly punctated thorax, and most often with lighter legs.

Black, rather glistening, with especially fine and short, whitish hair; base of maxillary palpi yellow; legs lighter or darker brownish red.

Head is broader than pronotum, as broad as elytra, dense and robust punctation; forehead between eyes scarcely impressed, but with two flattish broad grooves, separated by a flattish convex interval; antennae rather short; pronotum broadest before middle, somewhat narrower than the elytra, longer than broad, narrowing posteriorly, and with anteriorly slightly rounded sides, convex, densely and very robustly punctated, without impressions and without groove in middle-line; elytra as long as or a trifle longer than pronotum, with hardly as dense, but equally robust punctation as pronotum, slightly convex, smooth or almost smooth; abdomen smoothly tapering, rather round with peculiarly fine side-margins especially in the ♂, with rather dense and fine, posteriorly finer punctation, its foremost free dorsal joint at base with four small carinae; hind tarsal second joint longer than the third. L. 2.5 mm.

In the ♂ the abdominal sixth ventral joint at tip feebly emarginate.

Distributed in Middle and North Europe; in this country everywhere rather rare; on damp ground and in alluvium at lakes and water-courses.

34. St. circularis Gravh.

(Gravh. Micr. 157; Erichs. Käf. Mk. Br. I, 556; Gen. Spec. Staph. 717; Kraatz Ins. D. II, 774; Thoms. Skand. Col. II, 219; Rey Brévip. 1884, 152; Ganglb. Käf. M. II, 578).

A small, somewhat flat species with subulate tapering abdomen, middle-carinated abdominal joints, also with light colored legs and maxillary palpi. Easily identified.

Black, rather dull; the thorax indistinctly, abdomen very finely whitish haired; maxillary palpi yellow; antennae brownish-red with blackish-brown club-joints; legs yellowish-red, often with brownish knees.

The head is broader than pronotum, but hardly as broad as elytra, rather robustly and extremely densely punctated; forehead between the eyes not impressed, but with two flat longitudinal grooves, separated by a feebly convex interval; antennae short; pronotum much narrower than elytra, at middle broader than long, and with strongly rounded sides,

with robust and especially dense rugous punctation, without impressions or middle-groove; elytra considerably longer than pronotum, very robust and very dense rugous punctation, almost smooth; abdomen subulate tapering, rather finely and densely punctated, its first four free dorsal joints at base with a small, yet distinct carina in middle-line.

L. 2-2.5 mm.

In the ♂ the femora are distinctly thicker than in the ♀, the middle and hind tibiae bear at tip on inner side a small spine; the abdominal sixth ventral joint is at tip feebly emarginate.

Distributed in Middle and North Europe; in this country rather rare and local, on damp meadow or marsh ground (Randers, Haderslev; Odense; Nykøbing F.; Sorø, vicinity of Copenhagen, Hillerød and several other places).

35. St. pumilio Er.

Erichs. Käf. Mk. Br. I, 558; Gen. Spec. Staph. 718; Kraatz Ins. D. II, 775; Thoms. Skand. Col. II, 219; Ganglb. Käf. M. II, 578).

The smallest species of the genus, narrower than circularis and with darker legs and antennae, but like this with middle-carinated abdominal joints.

Pure black, a little glistening, on thorax scarcely noticeable, on abdomen extremely finely haired; first joint of maxillary palpi and base of the second yellow; antennae at middle sometimes brownish; legs brownish-red or brownish-yellow with darker tarsi.

The head is somewhat broader than pronotum and narrower than elytra, robustly and very densely punctated, forehead between eyes impressed, with two feeble longitudinal grooves, separated by a convex interval, antennae rather slender; pronotum only half as broad as elytra, hardly as long as broad, anteriorly and posteriorly equally narrowing, with rounded sides, convex, robust and dense punctation, intervals between punctures convex, so that the dorsum appear as if granulated punctated; elytra $1\frac{1}{2}$ times as long as pronotum, feebly convex, with robust and dense, somewhat rugous punctation; abdomen subulate tapering, deeply and densely punctated, its foremost free dorsal joint with one as a rule noticeable middle-carina at base. L. 2 mm.

In the ♂ the abdominal fifth ventral joint at tip flatly emarginated, the sixth angularly incised.

Distributed in Middle and North Europe, everywhere rare or very rare. In Denmark a single specimen is found at Copenhagen (Rosenkrantz), several at Randers (O. G. Jensen, O. Jakobsen).

36. St. humilis Er.

(Erichs. Käf. Mk. Br. I, 554; Gen. Spec. Staph. 716; Kraatz Ins. D. II, 773; Thoms. Skand. Col. II, 218; Rey Brévip. 1884, 158; Ganglb. Käf. M. II, 580).

Within the subgenus easily identified by middle-carinated abdominal joints, short elytra, and rather light legs.

Wingless. Black, grayish, feebly glistening; thorax indistinctly, abdomen very fine and short, whitish haired; first two joints of maxillary palpi brownish yellow, the third darkly brownish; legs brownish-red or yellowish-red.

The head is broader than pronotum, as broad as elytra, with rather robust and very dense punctation; forehead between eyes not impressed, but with two flat, broad longitudinal grooves, separated by a very slightly convex interval; antennae short; pronotum narrower than elytra, as long as broad before middle, posteriorly more strongly narrowing than anteriorly, flattish convex, with robust and especially dense rugous-punctation, posteriorly sometimes with two feeble, obliquely placed side-impressions; elytra at the suture a little shorter than pronotum, rather flat, most often smooth, posteriorly feebly broadened, robust and

extremely dense rugous punctation; abdomen all over with rather robust and very dense punctation, its first four free dorsal joints with a short carina in middle-line; tarsi short, their fourth joint very feebly bilobed. L. 3-3.5 mm.

In the ♂ the hind tibiae on inner side at tip with a very small spine; abdominal fifth ventral joint is posteriorly slightly impressed and emarginated, the sixth at tip obtuse angularly incurved.

Distributed in Middle and North Europe; with us not rare, most frequent in woodland on damp ground, at margin of lakes under moist foliage and in alluvium.

37. St. carbonarius Gyllh.

(Gyllh. Ins. Suec. IV, 505; Thoms. Skand. Col. II, 218; Ganglb. Käf. M. II, 581. - niger Kraatz Ins. L. II, 753. - opacus Erichs. Käf. Mk. Br. I, 543; Gen. Spec. Staph. 705; Rey Brévip. 1884, 142).

In appearance somewhat like bupthalmus, but the abdominal foremost dorsal joints middle-carinated and the fourth joint of tarsi feebly bilobed; most often it is also a little smaller. From the closest allied humilis it is easily separated by entirely black legs and longer elytra.

Black, dull; thorax extremely short, almost indistinctly, abdomen especially short, whitish haired; first joint of maxillary palpi yellow, the following darkly brownish.

Head as broad as elytra, somewhat broader than pronotum, especially densely and rather robustly punctated; forehead between eyes impressed, and with two very flat, broad grooves, separated by a very feebly convex interval, antennae short; pronotum narrower than elytra, hardly

longer than broad before the middle, posteriorly narrowing, and anteriorly with rather strongly rounded sides, flatly convex, with robust and extremely dense punctation, without distinct impressions posteriorly, and without groove in middle-line; elytra a little longer than pronotum, slightly flattish depressed and most often a little uneven, robust and especially dense, not rugous punctation, their mutual posterior margin obtuse angularly produced; abdomen slightly tapering, rather robustly

and toward the tip very densely punctated, its foremost free dorsal joint at base with a short carina in the middle-line, its last dorsal joint at middle flatly grooved; tarsi short, their fourth joint feebly bilobed. L. 3 mm.

In the ♂ the abdominal fifth ventral joint posteriorly slightly impressed and more densely haired, posterior margin feebly incurved, the sixth at tip obtuse angularly or roundedly incised.

Distributed in North and Middle Europe; not rare in this country, mostly on damp marsh- or meadow-ground, often in alluvium.

Thomson holds (see Opusc. Ent. II, 127 and III, 329), that under the name of carbonarius Gyllh. 4 species are synonymous. Besides the true carbonarius Gyllh. he singles out opacus Er., Thoms., subglaber Thoms. and glabellus Thoms. (cf. Thoms. Skandinaviens Insekter I, 37):

a. St. opacus Thoms. deviates from carbonarius Gyllh. in, that abdomen is less tapering, at tip less densely punctated, and that its last dorsal joint in the ♀ is without groove; the fifth ventral joint in

the ♂ is posteriorly more distinctly incurved. - According to Thomson it is found in Skaane, but is rare. In Cl. Grills Förteckning öfv. Skandinaviens Coleoptera 1896 this species is synonymized with carbonarius Gyllh.

- b. St. subglaber Thoms. is scarcely haired, its elytra with somewhat rugous punctation, abdomen posteriorly tapering, its last dorsal joint not grooved; the fifth ventral joint in the ♂ is posteriorly not impressed, nor emarginate, the sixth at tip shortly incurved. *) - Said to be found in Skaane, Finland and Denmark. Of those in Denmark found specimens (se Dr. Meinerts Fort. o. Stenus in Entom. Medd. 1889-90, 231) I have seen 12 specimens in Løvendal's collection. They belong to 4 different species, but none to subglaber. A single specimen, ♀, in my own collection, found in alluvium at Lyngby lake, 3. 1910, corresponds very well with the stated characters of the ♀, but as I am not familiar with the ♂, and my specimen furthermore is distinguished by, that the fourth joint of tarsi is simple, undivided, and the forehead entirely smooth, I dare not at present determine it as subglaber. It contrariwise corresponds well in all with carbonarius Rey (Brévip. 1884, 132), which is separated from carbonarius Thoms. (= opacus Erichs.) in, that the fourth tarsal joint in the latter species is feebly bilobed, but in the former undivided.
- c. St. glabellus Thoms. deviates from subglaber in, that abdomen is less tapering, and that its last dorsal joint has a groove before the tip. - Said to be found in Skaane and Norway. (Grill).

In Catalogus Coleopt. Eur. (Reitter) 1891 Thomson's species are mentioned as synonyms of carbonarius Gyllh. (φ = subglaber Thoms., σ = glabellus Thoms.). At present we lack sufficient material wherewith to confirm Thomson's divisions.

3. subgenus Hemistenus Rey.

38. St. pubescens Steph.

(Steph. Ill. Brit. V, 297; Ganglb. Käf. M. II, 587. - subimpressus Erichs. Käf. Mk. Br. I, 561; Gen. Spec. Staph. 722; Kraatz Ins. D. II, 780; Thoms. Skand. Col. II, 232; Rey Brévip. 1884, 216).

One of our largest species, elongate, rather flat and of equal breadth, together with the deeply cleft fourth joint of tarsi, and margined abdomen, especially recognized by that of the body dense, glistening, apparently water-shedding hair-vestiture, and remarkably long, somewhat uneven elytra.

Black, lead-like glistening, all over with dense and rather long, prostrate, silver-white glistening hair; antennae yellowish-red, their first joint black, the club brownish-black; first joint of maxillary palpi yellow, the others darkly brownish.

The head is a little broader than pronotum, and a little narrower than elytra, rather finely and densely punctated, with flat forehead, and two short, flat, sometimes feebly foveate grooves, separated by a very feebly convex interval, antennae rather short; pronotum a little longer than broad at middle, posteriorly a little more narrowing than anteriorly, with rounded sides, flatly convex, rather fine and dense

punctuation, ground surface very finely shagreened and with a flat impression behind middle on each side of the middle-line; elytra peculiarly long, $\frac{1}{2}$ time longer than pronotum, punctated and the surface shagreened about like same, distinctly uneven, with parallel sides; abdomen finely and rather densely punctated, rather broadly margined; tarsi short, their third joint bilobed, the fourth deeply cleft and bilobed.

L. 5.5-6 mm.

In the ♂ the hind tibiae are distinctly undulated, without tooth at tip; abdominal third and fourth ventral joints are posteriorly semicircularly impressed, densely haired and feebly emarginate, the fifth impressed at middle and at base, posteriorly haired, the sixth at tip rather deeply incised and posterior margin of the incision slightly elevated. - in the ♀ the abdominal sixth ventral joint is acutely triangularly prolonged.

In ditches, at rivers and lake shores on water-plants; distributed in North and Middle Europe, not rare in this country.

39. St. binotatus Ljungh.

(Ljungh. Web. u. Mohr Arch. I, 66; Erichs. Käf. Mk. Br. I, 561; Gen. Spec. Staph. 721; Kraatz Ins. D. II, 779; Thoms. Skand. Col. II, 232; Rey Brévip. 1884, 218; Ganglb. Käf. M. II, 588).

From pubescens, which it strongly resembles, it is separated especially by the following details:

It is considerably smaller and narrower, the head is not as broad, pronotum more oblong, elytra a little shorter, $1\frac{1}{3}$ times as long as pronotum, almost smooth, together with pronotum with more robust and denser

punctuation, the surface not shagreened; abdomen more finely margined, with all over, but especially posteriorly more robust punctuation. L. 4.5-5 mm. (Fig. 149).

In the ♂ the hind tibiae are feebly undulated, and on inner side at tip with a small, yet distinct spine; abdominal third and fourth ventral joints are posteriorly slightly depressed and feebly emarginated, the fifth hardly feebly depressed, the sixth deeply incised. - In the ♀ the sixth ventral joint is obtuse angularly prolonged.

In like places as pubescens, distributed like this, and common in this country. The larva and pupa are found in the stem of common water mustard (Brachyolobus amphibium) and reared by Hr. Laerer I. P. Kryger (7. 8. 1912). He presumes that the larva here lives on small snout-beetle larvae (Poophagus sisymbrii), which were found to be numerous in the stems, and he observed at the rearing, that it by the assistance of the anal joint, which serves as support- and pushing-joint and ends in sucking-discs, was able to crawl up at a leaf surface in a measuring manner, and could adhere to a glass plane, but however not crawl up at same. The larva pupates in the plant stem in a double cocoon, and develops in the course of some weeks into beetle. - It is likely that the closely allied species: Stenus pubescens and pallitarsis et. al. live and develop in a similar manner as binotatus. - Dr. Wesenberg-Lund has observed that these Stenus species with broad tarsal joints and water-shedding hair-vestiture not only mounts the water plants, but also run upon the water surface, and in a most peculiar manner and with astonish-

ing agility are able to whirl around upon same.

Fig. 149. Stenus binotatus Ljungh.

40. St. pallitarsis Steph.

(Steph. Ill. Brit. V, 298; Ganglb. Käf. M. II, 588. - plantaris Erichs. Käf. Mk. Br. I, 562; Gen. Spec. Staph. 722; Kraatz Ins. D. II, 781; Thoms. Skand. Col. II, 233; Rey Brévip. 1884, 220).

Very closely allied to both the preceding species, from which it however is easily separated by entirely yellow maxillary palpi, and by reddish-yellow tarsi.

Black, lead-gray glistening, with dense and rather long, prostrate, silver-white glistening hair; antennae reddish-yellow, their first joint black, the club most often brownish; maxillary palpi yellow; legs black with reddish-yellow tarsi.

The head is broader than in binotatus, broader than pronotum, hardly as broad as elytra, rather fine and dense punctation and with two flat forehead grooves, separated by a distinctly convex, somewhat glistening interval,------(Page 515)----- the antennae rather short; pronotum much narrower than elytra, oblong, rather finely and densely punctated, the surface extremely finely shagreened, and with a feeble side-impression behind middle; elytra nearly $1\frac{1}{2}$ times as long as pronotum, punctated and shagreened as this; abdomen finely and densely punctated, posteriorly tapering. L. 4.5-5 mm.

In the ♂ the hind tibiae are feebly undulated, without spine at tip; abdominal third and fourth ventral joints are posteriorly slightly impressed and feebly emarginated, the fifth not impressed, the sixth at tip

with deep angular incision.

Like the two preceding species on water plants, often in alluvium. Distributed in Europe; rather common in this country.

41. St. niveus Fauv.

(Fauv. Bull. Soc. Linn. Norm. IX, 1865, 307; Rey Brévip. 1884, 222; Ganglb. Käf. M. II, 589).

From pallitarsis, to which it is closely allied, it differs in that, it is considerably smaller, narrower and more of even breadth, tarsi darker, as a rule brownish-yellow, the grooves of the forehead more distinct, almost foveate, and that abdomen is less tapering, nearly of equal breadth. L. 4-4.5 mm.

It is known from a few places in Midale Europe and Scotland. In this country it is apparently so far only found in the northern part of Jutland at Raebild, south of Aalborg, in alluvium (Auth. 3. 1897).

42. St. bifoveolatus Gyllh.

(Gyllh. Ins. Suec. IV, 500; Kraatz Ins. D. II, 781; Thoms. Skand. Col. II, 234; Rey Brévip. 1884, 232; Ganglb. Käf. M. II, 590. - plancus Erichs. Gen. Spec. Staph. 723).

From the following closely allied species it is easily separated by: darker legs and middle-carinated abdominal joints.

Black, rather glistening, very sparse and fine, whitish haired; antennae reddish-yellow with black basal joint, and brownish club; maxillary palpi yellow, their third joint darkly brownish; legs black, sometimes pitch-black with brownish femora.

The thorax with rather robust, but not dense punctation, the surface extremely finely shagreened; the head about as broad as elytra, broader than pronotum, with two rather broad, often feebly foveate grooves on forehead, separated by a convex, occasionally finely carinated interval, antennae rather short; pronotum before middle hardly as broad as long, narrowing posteriorly, slightly convex, behind middle with a flat, obliquely placed impression on each side; elytra only a little longer than pronotum, uneven; abdomen with rather fine and dense, posteriorly finer punctation, rather thick and convex, rather finely margined, its foremost three free dorsal joints at base with a short carina in middle-line; tarsi short, broad, their third joint heart-shaped, the fourth deeply cleft and bilobed. L. 3.5-4 mm.

In the ♂ the abdominal fourth and fifth ventral joints are impressed, the fourth posteriorly, but the fifth at base, and this behind the impression densely haired, the sixth is at tip deeply angularly incised.

Distributed in North and Middle Europe; in Denmark mainly on damp meadow- or marsh-ground, in alluvium and at water places, not common (vicinity of Copenhagen, Sorø; Lolland; Odense; Aarhus, Randers, Ålborg and several other places).

43. St. picipes Steph.

(Steph. Ill. Brit. V. 288; Ganglb. Käf. M. II, 569. - rusticus Erichs. Jen. Spec. Staph. 724; Kraatz Ins. D. II, 783; Thoms. Skand. Col. II, 233; Rey Brévip. 1884, 228).

Among the most closely allied species particularly identified by:

proportionally long elytra and very densely punctated abdomen.

Black, with lead-gray reflection, feebly or dully glistening, short and rather dense, whitish haired; antennae reddish-yellow with black basal joint and brownish club-joints; maxillary palpi yellow, their third joint at tip most often brownish; legs brownish-red with pitch-black knees and tibiae.

Head broader than pronotum, but distinctly narrower than elytra, rather robustly and very densely punctated, with two rather broad, distinct forehead-grooves, separated by a convex interval, antennae rather short; pronotum much narrower than elytra, hardly longer than broad before middle, with anteriorly rounded sides, narrowing posteriorly, smoothly convex, rather robustly and very densely punctated, with two suggested or feeble impressions behind middle; elytra fully $\frac{1}{3}$ longer than pronotum, equally robustly, but hardly as densely punctated as this, with a boss^{*)} near the suture anteriorly; abdomen narrowing posteriorly, slightly convex, narrowly margined, with rather fine and very dense punctation, its foremost free dorsal joint without carinae; tarsi short, their third joint short triangular, the fourth deeply cleft, bilobed. L. 3.5-4.2 mm.

In the ♂ the abdominal sixth ventral joint at tip is angularly incised.

Distributed in Middle Europe, also found here and there in Sweden; in Denmark it is local, and in most places, for instance in northern Jutland, rare; on moist meadow- or forest-ground.

*)The Danish word for boss also means dint-. Transl.

44. St. foveicollis Kr.

(Kraatz. Ins. D. II, 782; Rey Brévip. 1884, 231; Ganglb. Käf. M. II, 590. - brevicollis Thoms. Öfv. Vet. Ac. Förrh. 1857, 231; Skand. Col. II, 234).

From picipes, to which foveicollis is very closely allied, and especially is like in color, the gray, feeble gloss, smooth, fine hair-vestiture and dense punctation of the body, it is separated in that: the legs, especially the femora, most often are more purely yellowish-red, the head is proportionally broader, as broad as elytra, these shorter and less broad, hardly longer than pronotum, abdomen more round.

L. 3.5 mm.

In this country rare or very rare and local, in the northern part of Jutland however more frequent than the preceding species (Brønderslev,

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Skørping, Silkeborg, Horsens); on meadow ground and at lake shores in alluvium. Distributed in Middle and North Europe.

45. St. nitidiusculus Steph.

(Steph. Ill. Brit. V, 292; Ganglb. Käf. M. II, 591. - tempestivus Erichs. Käf. Mk. Br. I, 563; Gen. Spec. Staph. 724; Kraatz Ins. D. II, 784; Thoms. Skand. Col. II, 234; Rey Brévip. 1884, 223).

A wingless, rather broad species, easily identified, especially by the rather strong gloss and sparse punctation of the body, also by the short, uneven elytra.

Glistening black, with a feeble lead-like reflection, very short, fine whitish hair-vestiture; antennae reddish-yellow, their first joint black, the club brownish; maxillary palpi reddish-yellow, the third joint most

often a little brownish; legs reddish-yellow, nearest the knees pitch-brown.

The head is broader than pronotum, as broad as the base of elytra, rather fine and dense punctation, on forehead between the eyes with two broad grooves, separated by a convex, glistening interval, antennae rather short; pronotum broadest before the middle, narrower than elytra, as broad as long, narrowing posteriorly, slightly convex, rather finely and not densely punctated, the surface very finely reticulated, on each side behind middle with an obliquely placed, rather deep impression; elytra a little longer than pronotum, broadened posteriorly, very uneven, with rather fine and sparse punctation, between the punctures extremely finely reticulated; abdomen finely and particularly at the middle sparsely punctated, tapering, dorsal joints without carinae at base; tarsi short and broad, their third joint heart-shaped, the fourth deeply cleft, bilobed. L. 4-4.5 mm.

In the ♂ the abdominal sixth ventral joint at tip deeply, angularly incised.

Distributed in Middle and North Europe; in our country local and rather rare; at ditches and on wet ground on water plants (Skørping, Randers, Py, Vejle, Vosborg; Odense; Sorø, Copenhagen; Lolland several places).

46. St. flavipes Steph. (nec Er., Kr.).

(Steph. Ill. Br. V, 289; Ganglb. Käf. M. II, 591. - filum Erichs. Käf. Mk. Br. I, 568; Gen. Spec. Staph. 731; Kraatz Ins. D. II, 792; Thoms. Skand. Col. II, 235; Rey Brévip. 1884, 236).

A narrow, elongate, wingless species; within the subgenus easily identified by the body's form and by entirely yellow legs and maxillary palpi.

Black, glistening, with feeble lead-like reflection, very fine and sparse whitish haired; antennae, maxillary palpi and legs purely reddish yellow, antennal first joint black, the last two club joints most often brownish.

The head is fully as broad as elytra, much broader than pronotum, rather finely and not densely punctated, with two broad forehead-grooves,

separated by a convex, posteriorly almost smooth interval; antennae rather short; pronotum narrower than elytra, oblong, narrowing posteriorly, with anteriorly rounded sides, slightly convex, rather fine, sparse punctation, often smooth in middle-line, the entire surface extremely finely reticulated, without impressions; elytra a little longer than pronotum, with rather robust, sparse punctation, the surface extremely finely reticulated, smooth; abdomen elongated and only tapering posteriorly, rather fine and sparse, posteriorly finer punctation, narrowly side-margined, its foremost free dorsal joint without carinae; tarsi short and broad, their third joint heart-shaped, the fourth deeply divided and broadly bilobed. L. 3-3.5 mm.

In the ♂ the abdominal fourth and fifth ventral joints at middle slightly impressed and densely haired; the sixth at tip broadly, angularly incised.

Distributed in Middle and North Europe; in our country it is rare; on damp woodland and meadow ground, on water plants at water-courses and ditches (Ry and Laven); several places in northeastern Sjaelland; Falster; Bremersvold, Loll.).

4. Subgenus Mesostenus Rey.

47. St. palustris Er.

(Erichs. Käf. Mk. Br. I, 565; Gen. Spec. Staph. 729; Kraatz Ins. D. II, 690; Thoms. Skand. Col. II, 238; Rey Brévip. 1884, 199; Ganglb. Käf. M. II, 597).

In relation to the following species of this subgenus easily identified by the color of: antennae, maxillary palpi, and legs.

Black, somewhat glistening, without bronze-reflection, extremely sparsely and finely haired; maxillary palpi yellow, their third joint brownish; antennae reddish-yellow, but their first joint and the club brownish, sometimes almost black; legs brown or pitch-brown, femoral inner half reddish-yellow.

The head is broader than pronotum and elytra, rather robustly and densely punctated; forehead not impressed, but with two broad, rather deep longitudinal grooves, separated by a convex, somewhat smoothened interval, antennae rather short, shorter than in impressus; pronotum before middle as broad as long, and almost as broad as elytra, with strongly rounded sides, narrowing posteriorly, robustly and densely punctated, in middle-line most often slightly grooved, and with a feeble impression on each side posteriorly; elytra rather flat, uneven, posteriorly feebly broadened, a little longer than pronotum, punctated

like this; abdomen with rather fine and dense punctation; tarsi rather slender, their fourth joint deeply bilobed, first joint of hind tarsi elongated, much longer than the claw-joint. L. 3.5 mm.

In the ♂ the abdominal sixth ventral joint obtuse angularly emarginated.

Distributed in North- and Middle Europe; with us it is not rare on damp ground. .

48. St. geniculatus Gravh.

(Gravh. Mon. 228; Erichs. Käf. Mk. Br. I, 564; Gen. Spec. Staph. 728; Kraatz Ins. D. II, 788; Thoms. Skand. Col. II, 236; Rey Brévip. 1884, 197; Ganglb. Käf. M. II, 596. - proboscideus Gyllh. Ins. Suec. II, 476).

From palustris is geniculatus easily separated by the predominantly yellow color of the legs; from impressus, with which it most easily is confused, it is separated mainly by: the feeble, dull gloss of the body, the more distinct and densely punctated abdomen, and by the darker knees of the hind legs.

Black, feebly or dully glistening without metallic reflection, very finely whitish haired; maxillary palpi, and legs reddish yellow, but the third joint of maxillary palpi, two first joints and club of the antennae, also the knees, especially the posterior, brownish or brownish black.

The head as broad as elytra, broader than pronotum, together with this and elytra robustly and very densely punctated; forehead between eyes not impressed, but with two flat, broad grooves, separated by a

slightly convex, most often somewhat smooth interval, antennae rather slender and fine; pronotum before middle hardly as broad as long, narrower than elytra, with slightly rounded sides, narrowing posteriorly, at middle-line feebly, sometimes indistinctly grooved, and with two especially feeble impressions posteriorly; elytra fully as long as pronotum, with almost parallel sides, somewhat uneven; abdomen with very dense, anteriorly rather robust, posteriorly finer punctation; tarsi same as in palustris. L. 4-4.5 mm.

In the ♂ the abdominal sixth ventral joint is posteriorly smoothed and at tip with a very small incision.

Distributed in North and Middle Europe; in our country rather rare and local; most often on high ground, on heath-hills under heather, moss and lichen, in highland forests and thicket under leaves and like places. (North Sjaelland from Copenhagen to Tisvilde; Jutland, especially from Ry to Frederikshavn).

49. St. flavipalpis Thoms.

(Thoms. Skand. Col. II, 237, IX, 200; Ganglb. Käf. M. II, 597).

Very closely allied to and like geniculatus, from which it is mainly separated by the following details:

The body somewhat glistening, with feeble ore- or bronze-reflecting; maxillary palpi entirely yellow; antennae yellow with brownish or pitch-black basal joint and brownish club; legs almost entirely yellow, only middle- and hind-knees narrowly and most often feebly pitchy-brown; pronotum at middle approximately as broad as long, at middle-line not

grooved, but often smooth. Elytra rather uneven, these and pronotum somewhat less densely punctated than in geniculatus, whereas abdomen is rather robustly and equally densely punctated as in same. - From the likewise closely allied impressus it is easily separated by: less distinctive bronze-reflection, not grooved pronotum, and especially by the more dense and robust punctation of abdomen. L. 4 mm.

It was first found in a woodland pool at Ringspen in Skaane (Thoms.) later in several places in Sweden, Norway and in middle European high-land forests. In Denmark its occurrence has heretofore not been fully verified, but some specimens from alluvium at Lyngby lake (4. 1910 author) are rather certainly of this species.

50. St. impressus Germ.

(Germ. Ins. spec. nov. 36; Erichs. Käf. Mk. Br. I, 564; Gen. Spec. Staph. 728; Kraatz Ins. D. II, 788; Thoms. Skand. Col. II, 236; Rey Brévip. 1884, 201; Ganglb. Käf. M. II, 597).

Among our closely allied species easily identified by the decided metallic lustre of the body.

Black, glistening with distinctive bronze- or ore-reflection, very finely, sparsely whitish haired; maxillary palpi, antennae and legs light reddish-yellow; antennal first joint and club, most often also the middle and hind knees, feebly or only suggestively brownish.

The head is fully as broad as the elytral base, considerably broader than pronotum, with dense and rather robust punctation; forehead between the eyes with two broad, rather deep grooves, separated by a

convex, at middle smoothened interval, antennae fine, proportionately long and slender; pronotum narrower than elytra, before the middle hardly as broad as long, narrowing posteriorly, densely and rather robustly, more robustly punctated than the head, at middle with a flat, punctated groove, and on each side of this with one or two feeble longitudinal impressions; elytra fully as long as pronotum, feebly broadened posteriorly, uneven, with robust and rather dense punctation; abdomen with rather dense, flat, anteriorly rather fine, posteriorly finer punctation; tarsi rather slender, their fourth joint deeply bilobed. L. 3.5-4 mm.

In the ♂ the abdominal fifth ventral joint is posteriorly at middle more densely haired, the sixth at tip obtuse angularly incurved.

Distributed in Europe; in this country common on high, as well as damp ground.

51. St. Erichsoni Rye.

(Rye. Ent. Monthl. Mag. I, 1864, 108; Ganglb. Käf. M. II, 598. - flavipes Erichs. Käf. M. Br. I, 566; Gen. Spec. Staph. 729; Kraatz Ins. D. II, 789; Thoms. Skand. Col. II, 237; Rey Brévip. 1884, 204).

Recognized by short, smooth, posteriorly distinctly broadened elytra and as a rule entirely yellow legs; smaller and less glistening than impressus.

Black, feeble ore-reflection, finely whitish haired; antennae, maxillary palpi, and legs with coxae reddish yellow; antennal club brownish; the hindmost four knees sometimes narrowly brownish-yellow.

The head is broader than elytral base, broader than pronotum, very

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densely and rather robustly punctated, and with two broad, rather deep forehead-grooves, separated by a convex, at middle smoothened interval,

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antennae fine, distinctly shorter than in impressus; pronotum before middle about as broad as elytral base, as broad as long, with strongly rounded sides, posteriorly strongly narrowing, feebly convex, robustly and densely punctated, in middle-line finely, anteriorly and posteriorly abbreviated grooved; elytra at suture not longer than pronotum, posteriorly distinctly broadened, smooth, with robust and dense punctation; abdomen anteriorly with rather robust and dense, posteriorly finer punctation; tarsi rather slender, their fourth joint deeply bilobed. L. 3-3.5 mm.

In the ♂ the femora are somewhat thicker than in the ♀; abdominal sixth ventral joint at tip narrowly incised.

Distributed in Europe; in this country rather rare and local; on high forest ground under leaves, and on heath-land hills under heather, moss and lichen (North Sjaelland, Møen; Falster; Odense, the heath regions in Jutland).

52. St. pallipes Gravh.

(Gravh. Micr. 157; Erichs. Käf. Mk. Br. I, 567; Gen. Spec. Staph. 731; Kraatz Ins. D. II, 790; Thoms. Skand. Col. II, 238; Rey Brévip. 1884, 209; Ganglb. Käf. M. II, 599).

From the preceding species, which it is like in size and color, it is easily separated, mainly by parallel elytra and finely marginated, almost cylindric abdomen.

Black, feebly glistening, fine, whitish-gray haired; antennae, maxillary palpi and legs reddish-yellow; antennal club pitch-black or brownish; knees sometimes feebly brownish-yellow.

The head is broader than pronotum, as broad as elytra, very dense and rather robust punctation, with two broad, flat foreneck-grooves, separated by a slightly convex interval, antennae not long; pronotum before middle as broad as long, narrower than elytra, narrowing posteriorly, with dense and robust punctation, in middle-line not grooved, and without distinct impressions; elytra hardly longer than pronotum, fully as robust, but hardly as densely punctated as this, smooth and with parallel sides; abdomen very finely margined, tapering, almost cylindric, with dense, and anteriorly rather fine, posteriorly finer punctation; tarsi fine and rather slender, their fourth joint deeply cleft. L. 3-3.5 mm.

In the ♂ abdomen is more cylindrically tapering and finer margined than in the ♀, its sixth ventral joint at tip obtuse angularly incurved.

Distributed in Europe; with us local and very rare; at lake- and river-shores in alluvium (Copenhagen at Længegaardssø, Jægersø and other places, Høge at Lillingør; at Maribo lake).

5. Subgenus Tesnus Ray.

53. St. opticus Gravh.

(Gravh. Micr. 231; Erichs. Käf. MK. Fr. I, 560; Jen. Spec. Staph.

720; Kraatz Ins. D. II, 778; Thoms. Skand. Col. II, 222; Rey Brévip. 1884, 167; Ganglb. Käf. M. II, 582).

A small species with round, not marginated abdomen like the following species of this subgenus, but as a whole mainly recognized by: especially densely punctated, dull thorax, and by abdominal four-carinated foremost free dorsal joint, also by simple tarsal joints.

Black; thorax dull, scarcely haired, abdomen feebly glistening, very finely whitish haired; maxillary palpal first joint yellow; legs darkly brownish-red, often almost black.

The head is distinctly broader than pronotum, as broad as elytra, with flat forehead without grooves, with rather robust, and extremely dense rugous punctation, antennae rather short; pronotum at middle as broad as long, narrower than elytra, with rounded sides, posteriorly rather strongly narrowing, slightly convex, rather robust and extremely dense punctation, without groove in middle-line, and without impressions; elytra a little longer than pronotum, flattish convex, with robust and especially dense punctation, smooth; abdomen without margination, round, tapering, anteriorly with sparse, flat and rather fine, posteriorly finer punctation, its first three free dorsal joints with four fine carinae at base; tarsi short with undivided joints. L. 2.5-2.8 mm.

In the ♂ the abdominal sixth ventral joint at tip feebly emarginated.

Distributed in Middle and North Europe; in this country sometimes numerous in alluvium on damp ground and at lake-shores, but somewhat local.

54. St. crassus Steph.

(Steph. Ill. Brit. V, 287; Ganglb. Käf. M. II, 582. - nigritulus Erichs. Käf. Mk. Br. I, 559; Gen. Spec. Staph. 719; Kraatz Ins. D. II, 775. - crassiventris Thoms. Ofv. Vet. Ac. Forh. 1857, 229; Skand Col. II, 226; Rey Brévip. 1884, 164).

A species varying in size, and often with remarkable thick, short abdomen, otherwise within the subgenus identified by narrow head and abdominal four-carinated foremost free dorsal joint.

Black, rather glistening, very fine, short, whitish haired; first joint of maxillary palpi yellow.

The head is hardly broader than pronotum, distinctly narrower than elytra, robustly and very densely punctated, with almost flat forehead, and two very feeble, broad forehead-grooves, separated by a very feeble interval, which often is finely carinated in the middle-line, antennae short; pronotum broadest before the middle, distinctly narrower than elytra, hardly as broad as long, narrowing posteriorly, with robust and very dense punctation, without impressions and without groove in middle-line; elytra somewhat longer than pronotum, with equally robust, but

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hardly as dense punctation as this, anteriorly a little uneven; abdomen round, often thick, with rather fine, and not dense or deep, posteriorly finer punctation, its first three free dorsal joints at base with four short carinae, and the sides often very finely margined; tarsi short and simple. L. 3-3.5mm.

In the ♀ which ordinarily is larger and more robust than ♂, especially the abdomen is remarkably thicker than in this; in the ♂ the abdominal

sixth ventral joint is feebly emarginate.

Distributed in the greater part of Europe; in Denmark it is here and there numerous at the edge of lakes and water-courses in alluvium, but as a whole however rather rare (Aalborg, Randers, Silkeborg, Haderslev; Brahetrolleborg; Sorø, vicinity of Copenhagen, at Esrom lake, and several other places).

55. St. litoralis Thoms.

(Thoms. Ofv. Vet. Ac. Forh. 1857, 229; Skand. Col. II, 226; Rey Brévip. 1884, 166.- ? formicetorum Mannh., Ganglb. Käf. M. II, 582).

From crassus, to which smaller form it is closely allied, and possibly falls together with, it may (accd. to Thomson) especially be separated in that: the legs are brownish-red or pitch-brown, and abdomen somewhat more robustly punctated. The front-grooves of the head are most often somewhat more distinct and their interval at middle without carina-line. L. 2-2.5 mm.

According to Thomson not rare in Skaane on the strand and at lake-shores. A longer series which I have from the brim of Madum lake (6. 1891) and Jul lake (5. 1893), should probably be referred to this species, of which the deviation from small specimens of crassus however seems small and insignificant, in many instances hardly evincible. Provided that formicetorum Mannh. is same species as litoralis, it should (accd. to Ganglb.) also abide in the mounds with Formica rufa (in Middle Europe).

56. St. brunnipes Steph:

(Steph. Ill. Brit. V, 285; Ganglb. Käf. M. II, 583. - unicolor Erichs. Gen. Spec. Staph. 720; Kraatz Ins. D. II, 777; Thoms. Skand. Col. II, 230; Rey Brévip. 1884, 172).

This species identified, besides by the round abdomen, of which the foremost free dorsal joint is without carinae at base, especially by: short, robustly and very densely punctated elytra, and brownish-red legs.

Black, somewhat glistening, with sparse and very short, whitish hair; first joint of maxillary palpi as well as base of the following yellow; legs brownish-red or reddish-brown.

Rather elongate and of equal breadth; head as broad as elytra, broader than pronotum, with robust and very dense punctation, and with two broad, rather deep forehead-grooves, separated by a distinctly convex interval, antennae rather short; pronotum at middle as broad as long, narrower than elytra, with rounded sides, posteriorly a little more nar-

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rowing than anteriorly, flatly convex, smooth, robust and especially dense punctation; elytra at the suture not longer than pronotum, with very robust and very dense punctation, smooth; abdomen round, posteriorly slightly tapering, anteriorly with robust and dense, posteriorly somewhat finer punctation, its dorsal joint without carinae at base; tarsi short, their fourth joint feebly bilobed, separated about to the middle. L. 3.5-4 mm.

In the ♂ the abdominal sixth ventral joint at tip slightly emarginate. Distributed in Europe; in Denmark rather local and rare, in the north-

ern part of Jutland more frequent than on the islands; mostly on meadow and marsh ground, however also on damp forest ground.

57. St. nigritulus Gyllh.

(Gyllh. Ins. Suec. IV, 502; Thoms. Skand. Col. II, 229; Rey Brévip. 1884, 171; Ganglb. Käf. M. II, 583. - campestris Erichs. Käf. Mk. Br. I, 559; Gen. Spec. Staph. 719; Kraatz Ins. D. II, 776).

Very closely allied to brunnipes, from which it however is easily separated, especially by black legs, longer elytra and denser punctation.

Black, feebly glistening or dull, very finely whitish-gray haired; first joint of maxillary palpi, and most often also the following or at least its base yellow; legs black, more rarely pitch-brown.

The body of rather equal breadth, oftenest somewhat more robust than in brunnipes; The head as broad as elytra and broader than pronotum, robustly and extremely densely punctated, with almost obliterated forehead-grooves, and at middle slightly convex, antennae short; pronotum narrower than elytra, at middle almost as broad as long, with rounded sides, flatly convex, without impressions or middle-groove, robustly and extremely densely punctated; elytra distinctly longer than pronotum, with fully as robust, but not quite as dense punctation as same, almost smooth; abdomen round, posteriorly feebly tapering, anteriorly with robust and dense, posteriorly somewhat finer punctation, all over more robust and dense than in brunnipes; tarsi short, their fourth joint feebly bilobed. L. 3.5-4.5 mm.

In the ♂ the abdominal sixth ventral joint at tip slightly emarginate.

Distributed in Europe; in this country rather rare especially in the northern Jutland, more common on the islands; in meadows, damp forest ground and at lake shores in alluvium.

In a remarkably robust specimen (♀) in my collection the punctation of the body is all over considerably coarser than in the typical form, especially on the elytra and abdomen; forehead-grooves entirely obliterated, and forehead fully and distinctly convex, elytra proportionately broader or a little shorter, yet a little longer than pronotum, entirely smooth; abdomen thick and perfectly round, posteriorly scarcely tapering. L. 4.5 mm.

Haderslev (5. 1895. L. Andersen).

6. Subgenus Hypostenus Rey.

58. St. latifrons Er.

(Erichs. Käf. Mk. Br. I, 572; Gen. Spec. Staph. 743; Kraatz Ins. D. II, 797; Thoms. Skand. Col. II, 230; Rey Brévip. 1884, 252; Ganglb. Käf. M. II, 583).

Somewhat like brunnipes, and like this with round abdomen, but the fourth joint of tarsi is deeply cleft and bilobed, elytra longer and as well as pronotum with finer punctation, abdomen of more equal breadth etc.

Black, somewhat glistening with feeble lead-like reflection, sparsely and especially finely haired; first joint of maxillary palpi and base of the second yellow; antennal first two joints and club black, the intermediate joints blackish-brown or reddish-brown; legs likewise blackish - or reddish-brown.

The body of equal breadth and rather narrow; head broader than pronotum, and most often fully as broad as elytra, especially in the ♂, densely and rather robustly punctated, with broad forehead and two very flat, broad forehead-grooves, separated by a very feebly convex interval, antennae short; pronotum before middle somewhat narrower than elytra, as broad as long, narrowed posteriorly, very dense and rather robustly punctated, without impressions or groove; elytra hardly longer than pronotum, with equally robust, but hardly as dense punctation as pronotum, rather narrow, equally broad; abdomen entirely round, scarcely narrower than elytra, and very little tapering posteriorly, all over with rather robust and very dense punctation; tarsi short, their third joint feebly cleft, the fourth deeply cleft and bilobed. L. 3.5-4 mm.

In the ♂ the abdominal fifth ventral joint posteriorly flatly impressed and broadly emarginated, the sixth narrowly and deeply incised.

Distributed in Europe; not rare in this country on damp ground, at lake and river brims in alluvium.

59. St. fulvicornis Steph.

(Steph. Ill. Brit. V, 284; Ganglb. Käf. M. II, 584. - paganus Erichs. Käf. Mk. Br. I, 571; Gen. Spec. Staph. 742; Kraatz Ins. D. II, 796; Thoms. Skand. Col. II, 231; Rey Brévip. 1884, 251).

Very closely allied to latifrons, but as a rule a little larger, with broader and longer elytra, also lighter antennae and legs.

Black, very little shine, finely whitish-gray haired; maxillary

palpi yellow, their third joint toward tip brownish; antennae reddish yellow, their first two joints and the club brownish-black; legs brownish red, most often with darker knees and lighter tarsi.

The head is as broad as elytra, considerably broader than pronotum, head, pronotum and elytra with robust and very dense punctation, forehead broad with two flat longitudinal grooves, separated by a feebly convex interval; -----(Page 526) ----- pronotum before middle hardly as broad as long, considerably narrower than elytra, with slightly rounded sides, narrowing posteriorly, entirely smooth and without groove; elytra 1½ times as long as pronotum; abdomen round, feebly tapering, rather robustly and very densely punctated, more robustly than in latifrons; tarsi and the sex-characters in the ♂ same as in this, L. 4-4.5 mm.

Distributed in Europe; not rare in this country, and in like places as the preceding species, often together with same.

60. St. tarsalis Ljungh.

(Ljungh Web. Mohr. Beitr. II, 157; Erichs. Käf. Mk. Br. I, 569; Gen. Spec. Staph. 732; Kraatz Ins. D. II, 794; Thoms. Skand. Col. II, 232; Rey Brévip. 1884, 248; Ganglb. Käf. M. 584).

Larger and more robust than fulvicornis and with darker legs, and only the first antennal joint black.

Black, lead-like glistening, very short, whitish-gray hair vestiture; maxillary palpi yellow, antennae likewise yellow, but their first joint is black, and the club brownish; legs black with brownish-yellow tarsi.

The head is almost as broad as elytra, broader than pronotum, rather fine and very dense punctation, with two broad, flat forehead-grooves, separated by a feebly convex interval, antennae rather short; pronotum broadest at middle, as broad as long, narrowing posteriorly, very densely and somewhat more robustly punctated than the head, slightly convex and with a feeble, often merely suggested, obliquely placed impression on each side of the dorsum posteriorly; elytra distinctly longer than pronotum, hardly as densely, but fully as robustly punctated as this, anteriorly somewhat uneven; abdomen slightly tapering, round, with rather robust and toward the tip dense punctation; tarsi short, their third joint feebly divided, the fourth deeply bilobed. L. 4.5-5 mm.

In the ♂ the abdominal sixth ventral joint is at tip feebly emarginated.

Distributed in Europe; with us rather common on damp ground, sometimes numerous in alluvium.

61. St. similis Herbst.

(Herbst Arch. V, 1784, 151; Ganglb. Käf. M. II, 585. - oculatus Gravh. Micr. 155; Erichs. Käf. Mk. Br. I, 569; Gen. Spec. Staph. 733; Kraatz Ins. D. II, 795; Thoms. Skand. Col. II, 232; Rey Brévip. 1984, 245).

Closely allied to tarsalis and like this with round abdomen, and first antennal joint black, but larger, with longer antennae, light-colored legs and more robustly punctated abdomen.

Black, feebly lead-like glistening, with very short and fine, whitish hair; maxillary palpi entirely yellow; antennae yellow, but their

first joint black, and the club sometimes feebly brownish; legs yellow with black knees. ----- (Page 527) -----

The head is as broad as elytra, very densely and rather finely punctated, with two broad, rather short, flat forehead-grooves, separated by a low convex interval, antennae rather long, fine; pronotum about as broad at middle as long, considerably narrower than elytra, narrowing posteriorly, very dense and rather robust punctation, and with a feeble or merely suggested, oblique side-impression posteriorly; elytra $\frac{1}{3}$ longer than pronotum, with fully as robust, but not quite as dense punctation as this, anteriorly a little uneven; abdomen round, slightly tapering, all over with robust and very dense punctation; tarsi rather slender, their fourth joint deeply bilobed. L. 5.5-6 mm.

In the ♂ the posterior margin of the abdominal fourth ventral joint at middle broadly emarginated, the sixth at tip angularly incised.

Distributed in Europe, everywhere in this country rather common on damp ground; ♂ is seemingly much rarer than ♀.

62. St. solutus Er.

(Erichs. Gen. Spec. Staph. 734; Rey Brévip. 1864, 243; Ganglb. Käf. M. II, 585).

Of same size as similis, very closely allied to this, and as a whole of similar appearance, but somewhat more strongly, lead-like glistening. Antennae are yellow, their first joint yellow or brownish-yellow, never black, as in similis, but the club often brownish; legs for the most yellow, but the front-femora have a black spot above the knee, the middle-

femora with a black ring before the tip, on the back-femora the entire outer half is black, the upper part from beneath the middle of middle- and hind-tibiae, and the three first joints of tarsi at tip black or brownish-black.

The forehead-grooves of the head are deeper and more distinct than in similis, elytra narrower and shorter, very little longer than pronotum; abdomen with distinctly finer punctation, especially posteriorly very finely and densely punctated, rather strongly glistening. L. 5.5-6 mm.

In the ♂ the abdominal fourth ventral joint posteriorly slightly impressed and posterior margin at middle incurved, the sixth at tip with a deep and acute angular incision.

Its home is mainly in the western Middle Europe and in England, where it is found on boggy or marshy ground, in the stems of water-plants, often under the water surface (Fowler). In Denmark only a few specimens are taken on marsh-ground north of Copenhagen (Lyngby Mose, Dyrehaven, Brede, Donse) and on damp forest ground in Falster (Østskoven).

63. St. cicindeloides Schall.

(Schaller Act. Hall. I, 334; Erichs. Käf. Mk. Br. I, 570; Gen. Spec. Staph. 734; Kraatz Ins. D. II, 795; Thoms. Skand. Col. II, 231; Rey Brévip. 1884, 241; Ganglb. Käf. M. II, 585).

One of our largest and most robust Stenus species, easily identified by round abdomen and the peculiar, very coarse punctation of thorax etc.

Black, glistening, thorax very sparsely, abdomen more densely and distinctly, whitish haired; maxillary palpi yellow, their third joint often a little brownish; antennal base and middle joints reddish-yellow, the distal joints and club as a rule brownish-black; legs reddish-yellow, but the outer half of femora and tibiae until toward the tip, also outer part of tarsal joints black or brownish-black.

The thorax all over with dense, and especially pronotum and elytra remarkably coarse punctation; head (Fig. 150) broader than pronotum, but noticeably narrower than elytra, with two flattened forehead-grooves, separated by a feebly convex interval, antennae rather long; pronotum narrower than elytra, hardly longer than broad, with rounded sides, smoothly convex and without impressions; elytra somewhat longer than pronotum, slightly convex, but oftenest impressed closest to the scutellum, otherwheres smooth; abdomen round, feebly tapering, in the transversal grooves anteriorly with rather coarse and dense, the joints elsewhere with fine and rather scattered punctation; fourth tarsal joint deeply cleft and bilobed, the third at tip scarcely emarginated. L. 5.5-6 mm.

In the ♂ the abdominal sixth ventral joint at tip deeply angularly incised. (Fig. 150. Stenus cicindeloides Schall.).

Distributed in Europe; in this country not rare at lake shores, water-courses and on damp marsh- and meadow-ground.

64. St. fornicatus Steph.

(Steph. Ill. Brit. V, 287; Janglb. Käf. M. II, 586. - contractus

Erichs. Käf. Mk. Br. I, 573; Gen. Spec. Staph. 744; Kraatz Ins. D. II, 797; Thoms. Skand. Col. IX, 198; Rey Brévip. 1864, 254).

A small, very characteristic species with conical tapering, round abdomen, bilobed fourth tarsal joint, peculiarly small head, and strongly ventose-convex, very broad elytra.

Black, glistening, extremely finely and sparsely haired; maxillary palpi and antennae red- or pitch-brownish, the former's third joint, and the latter's club almost black; legs black, tibial base yellow.

The head (Fig. 151) is peculiarly small, hardly broader than pronotum, only half as broad as elytra, with rather robust and dense punctation, with two rather broad and flat forehead-grooves, separated by a flattish convex interval, antennae short; pronotum only half as broad as elytra, -----(Page 529) ----- as broad as long, with rounded sides, with coarse and especially on sides densely punctated, without impressions; the elytra remarkably broad, strongly ventose, with rounded sides, $1\frac{1}{2}$ times as long as pronotum, coarsely and densely punctated, smooth; abdomen at base often only half as broad as elytra, strongly conically tapering, round, anteriorly robustly and rather densely, posteriorly more finely punctated; tarsi rather short, their fourth joint deeply cleft, bilobed. L. 2.5 mm.

In the ♂ the abdominal fourth ventral joint plate-shaped prolonged, posterior margin of the plate broadly arcuately produced, with prominent corners and densely whitish haired posterior margin; the sixth ventral joint at tip rather broadly and deeply angularly incised.

Distributed in the greater part of Europe, everywhere rare; in this

country very rare and local; on boggy forest- and damp marsh-ground at root of plants and under leaves (vicinity of Copenhagen, Hillerød; Odense, Tommerup).

Fig. 151. Stenus fornicatus Steph.

7. Group Oxytelini.

(Erichs. Käf. Mk. Br. I, 576; Gen. Spec. Staph. Subtrib. 3+4, 759, 814; Kraatz Ins. D. II, 798. - Oxytelina Thoms. Skand. Col. III, 117. - Oxyporiens+Oxyteliens Muls. et Rey Brévip. 1879. - Oxyporini+Oxytelini Ganglb. Käf. Mteur. 602, 609).

Prosternum back of the fore coxae is more or less chitinized, and its spiracula covered; antennae 11-jointed, as a rule inserted beneath the callused* side-margin of the forehead in front of eyes; fore coxae peg-shaped and prominent, hind coxae broad and flat with small, not inclining coxal rings (trochanter). Furthermore the following remarks:

The body of most of our Oxytelini is more often cylindrical than flatly depressed, more or less elongate; the head porrect, occasionally constricted behind, and often with plump temples; antennae most often feebly, sometimes after the scape-formed first joint more strongly geniculate (Bledius); mandibles in a few genera peculiarly prominently protruding (Oxyporus, Acrognathus); maxillary palpi four-jointed, their last joint sometimes subuliform; labial palpi three-jointed, the third joint in Oxyporus uniquely developed, otherwise normal.

Pronotum varies in form, often provided with grooves and impressions and sometimes covers not posteriorly the foremost part of mesonotum (Bledius); the elytra are as a rule not longer than thorax, posteriorly most often evenly truncated, occasionally at sutural corners broadly rounded off or obliquely truncated (Platystethus, Thinobius); abdomen

*Perhaps - bosses, Transl.

most often rather thickly bounded; middle coxae in Oxyporus very broadly, in the rest more or less narrowly separated; legs rather short; fore-legs in several genera equipped for digging and the fore- and middle-tibiae then at outer margin more or less robustly spiniferous; tarsi either all 5-jointed or all 3-jointed, in a single genus (Thinobius) only 2-jointed. Sex-characters of various sort found in most of the genera in ♂♂.

Oxytelini prefer for the most part damp ground, and many dig or root in the mould of sandy earth, others seek nutriment at manure, decaying stuff and the like. Of middle and North European species (about 140) more than 50 are heretofore found in this country. They fall in two divisions. The larvae of different genera (Oxyporus, Eledius, Platystethus, Oxytelus, Haploderus) are known.

Key to Divisions.

1. Last joint of labial palpi large, semicircularly dilated. Middle coxae very broadly separated..... 1. Division Oxyporina.
- Last joint of labial palpi normal. Middle coxae more or less narrowly separated or contiguous..... 2. Division Oxytelina.

1. Division Oxyporina.

Last joint of labial palpi semicircularly dilated; clypeus short, evenly truncated; mandibles peculiarly prominently protruding; middle coxae very broadly separated; tarsi 5-jointed, tibiae not spiniferous.

To this only 1 genus.

90. Genus Oxyporus Fabr.

(Fabr. Syst. Ent. 267; Erichs. Käf. Mk. Br. I, 497; Gen. Spec. Staph. 555; Kraatz Ins. D. II, 810; Thoms. Skand. Col. III, 144; Muls. et Rey Brévip. 1879, 2; Ganglb. Käf. M. II, 602).

The body (Fig. 153) is rather square, broad and robust; the head large, porrect, not constricted behind, with rounded temples, rather protruding eyes, very short clypeus, angularly incised labrum, far protruding; robust, distally strongly broadened and somewhat flatly depressed antennae; maxillary palpi normal, but the last joint of labial palpi very broadly axe-shaped or semicircularly dilated (Fig. 152).

Pronotum narrower than elytra, slightly narrowing and entirely rounded off posteriorly, posterior margin and sides finely margined; elytra longer than pronotum, and with impressed suture-stripe, prominent humeral corners and rather equal posterior margin; abdomen rather short and broad with elevated, broad side-margins, posteriorly rounded tapering; tibiae not spiniferous, but with short bristle-hairs; all tarsi 5-jointed, the first joint short, the claw-joint almost as long as the preceding joints together.

Oxyporus species live both as larvae and mature beetles in fungi; 2 species, distributed in North and Middle Europe, are also found in this country. (Fig. 152. Labial palpi of Oxyporus rufus Linn.).

Key to Species.

1. Pronotum smoothly convex, without impressions, yellowish-red. L.

7-11 mm..... 1. O. rufus Linn.

- Pronotum anteriorly with a slight, saddle-shaped transversal im-

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pression, black. L. 8-12 mm..... 2. O. maxillosus Fabr.

(Page 532)

1. O. rufus Linn.

(Linné Syst. Nat. Ed. X, 422; Erichs Käf. Mk. Br. I, 498; Gen. Spec. Staph. 556; Kraatz Ins. D. II, 814; Thoms. Skand. Col. III, 145; Muls. et Rey Brévip. 1879, 4; Ganglb. Käf. M. II, 605).

Black, rather strongly glistening, not haired; pronotum, a large spot on humeri, abdominal first four free joint, also antennae, maxillary and labial palpi, and legs reddish-yellow; femoral base sometimes black.

(Fig. 153. Oxyporus rufus Linn.)

Head as broad as or broader than pronotum, this smoothly convex, both smooth; elytra with a flat longitudinal impression mesad of the humeri and at middle with two rows of rather robust, densely placed punctures, otherwheres with scattered punctation; abdomen smooth.

L. 7-11 mm.

In the ♂ the head is larger than in the ♀, abdominal fifth and sixth ventral joints posteriorly slightly emarginated.

Distributed in Europe and North Asia; in this country especially in wooded regions, but somewhat local. It lives in toadstools, often found in great numbers in these, it burrows through the lamellae and lives of the fungi.

2. O. maxillosus Fabr.

(Fabr. Ent. Syst. I, 2, 531; Erichs. Käf. Mk. Br. I, 498; Gen. Spec. Staph. 556; Kraatz Ins. D. II, 815; Muls. et Rey Brévip. 1879, 7; Ganglb. Käf. II, 605).

Larger and more robust than rufus, with a slight transversal im-

pression on pronotum, glistening, naked, variable in color, elytra punctated and impressed mainly as in the preceding species; sex-characters are identical.

In the typical form the head, pronotum and as a rule also the thorax are black, elytra pale brownish-yellow, and with a black spot in the outer hind corner, abdomen reddish-yellow, antennae, maxillary and labial palpi brownish-yellow, mandibles reddish, legs pale yellow. Occasionally head and pronotum each bear at middle a couple of reddish yellow spots. In a somewhat deviating form, v. angularis Gebl., the entire abdomen is black, in an other, v. Schönherri Mannh., the femora are also black. L. 8-12 mm.

In toadstools like the preceding species, often very numerous, but much rarer and more local than this; distributed in North and Middle Europe; in Denmark so far only found in the Jutish peninsula along the ridge in woodland (Rold forest, Lindum, vicinity of Himmelbjerget, Jellinge and Jels). The varieties are more rare than the typical form, but occur together with this. In Sweden and Norway it is heretofore not found, but in several places in Finland.

The larva of O. maxillosus is illustrated and described by I. Schiøde in Nat. Tidsskrift III. R. 3. B. 208, T. XI, Fig. 1-14.

A northern species, O. Mannerheimi Gyllh., with smoothly convex pronotum, and about of equal size with maxillosus, is, except for brownish tarsi and antennae, entirely black. It is found in Finland and Livonia, and may possibly also be found here (Bornholm?).

2. Division Oxytelina.

Labial palpi are simple and normal; mandibles most often short, occasionally however peculiarly strongly prominent; middle coxae narrowly separated or contiguous; tarsi 5- or 3- or exceptionally only 2-jointed, tibiae, namely the foremost and middle ones, the outer margin in most of the genera spiniferous.

Key to Genera.

1. Fore and middle tibiae in outer margin spiniferous. (Subdiv. Oxytelina Muls. et Rey)..... 2.
- Fore and middle tibiae not spiniferous, only haired. (Subdiv. Trogophloeina Muls. et Rey)..... 8.
2. Tarsi 3-jointed..... 3.
- Tarsi 5-jointed..... 7.
3. Scutellum free before the elytra on the neck-shaped foremost part of mesothorax (Fig. 154). Fore tibiae most often with two rows of spines in outer margin, at tip without incision. Antennae after the long first joint strongly geniculate, and the head with antennal groove beneath the eyes. The body rather cylindrical and often narrow, haired..... 91. Bledius Mannh.
- Scutellum not free, but as usual between the elytra. Fore tibiae as a rule with only a single row of spines and most often with incision at tip. Antennae feebly geniculate, and the head without distinct antennal groove beneath the eyes..... 4.
4. Middle coxae rather broadly separated..... 5.

- Middle coxae contiguous..... 6.
- 5. Pronotum with a single, sharp middle groove, without impression.
Elytra with sharp sutural stripe and rounded-off sutural corners..... 92. Platystethus Mannh.
- Pronotum with three, as a rule distinct longitudinal grooves at middle. Elytral sutural stripe feeble or obliterated. Sutural corners angulate..... 93. Oxytelus Gravh.
- 6. Maxillary palpal last joint very small and spiculiform. Mandibles not far protruding. Pronotum transverse, with two arcuate impressions on dorsum, separated by a narrow, smooth interval.
..... 94. Haploderus Steph.
- Maxillary palpal last joint longer than, and at base as thick as the next-last. Mandibles long and far protruding. Pronotum at least as long as broad..... 95. Planeustomus Duv.
- 7. Head constricted behind. Mandibles long and very far protruding.
..... 96. Acrognathus Er.
- Head not constricted behind. Mandibles short, not far protruding;
..... 97. Coprophilus Latr.
- 8. Tarsi 3- or 2-jointed. Body narrow and abdomen narrowly margined.: 9.
- Tarsi 5-jointed. Body short and broad (bronze-lustrous). Abdomen broadly and sharply side-margined.....100. Syntomium Curt.
- 9. Elytral sutural corners angulate, closed...98. Trogophloeus Mannh.
- Elytral sutural corners obliquely rounded off, hians. (Species very small)..... 99. Thinobius Kiesw.

(Subdiv. Oxytelina Muls. et Rey.)

91. Genus Bledius Mannh.

(Mannh. Brachl. 44; Erichs. Käf. Mk. Br. I, 578; Jen. Spec. Staph. 760; Kraatz Ins. D. II, 816; Muls. et Rey Brévip. 1879, 109; Langlb. Käf. M. II, 610. - Bledius+Hesperophilus+Astycops Thoms. Skand. Col. III, 118, 120, 121. - Bledius+Tadunus+Bargus+Astycops+Hesperophilus Schiødte Nat. Tidsskr. III. R. 4. B. 144).

Body rather elongated, of equal breadth, and in most of the species somewhat round; Head hardly as broad as pronotum, porrect, scarcely constricted behind, and with protruding, coarsely faceted, often "lashed" (facets surrounded with hair) eyes, and rather short, strongly geniculate, toward tip thickened antennae (Fig. 154), of which the long first joint can be placed in a short groove immediate before the eye; the mandibles are more or less prominent, and their "grasping-part" is sometimes plump, with a robust, sharp tooth back of the tip (Bledius s. str. and Tadunus Schiødte), sometimes emaciated (Bargus, Astycops and Hesperophilus Schiødte); the distal joint of maxillary palpi is small and subulate, that of labial palpi fine.

Pronotum is broadest anteriorly, the posterior third obliquely narrowing posteriorly, incurved or rounded off, with finely margined sides, separated from elytra - and therefore more mobile - with a short, neck-shaped prolonged mesothorax-piece, upon which scutellum is placed free before the elytral base (Fig. 154 and others) elytra are ordinarily longer than pronotum; abdomen often slightly distended posteriorly, its ventral side convex, side-margins rather thick; middle coxae close set; legs rather short; fore legs are robustly developed digging legs, and

their tibiae most often armed with a double row of spines, between which the tarsi during the digging can be placed, at tip without incision; middle tibiae with 1-2 rows of spine, the hindmost are haired at tip, also often with a single spine; tarsi fine, 3-jointed, the claw-joint longer than the two others together.

Sex-characters occur in most of the species. Ordinarily the posterior margin of the seventh ventral abdominal joint at middle more produced in the ♂ than in the ♀; in many species the head or pronotum of the ♂ is furthermore furnished with variously formed horns, or the mandibles are more prominent than in the ♀, or one of their teeth more robustly developed and erect.

The Bledius species are the moles of the Staphylinidae. Their body is constructed and well fitted for digging (cf. Scaritina, ground-beetles). Both as larvae and beetles they live under the surface of the ground digging their burrows in semi-damp, sandy and sandy-clayey brinks, in the surface of moist sand-plains and at the water edges of sea, lakes and like places, and their burrows are easily discovered by the small mounds and grooves which they root up; they most often live together in flocks. ----- (Page 535) ----- These beetles are most nearly insects of the dusk, as they appear or fly about at sunset time, especially on cosy summer evenings. The nourishment of beetles and larvae consists (accd. to Dr. Wesenberg-Lund's supposition) apparently to some extent of certain (oilbearing?) small alga, which grow in the sand; they, themselves are being chased by Dyschirius species, which are found together with them.

Of the European half-hundred species, about a score are heretofore found in this country. In Nat. Tidsskr. III. R. 4. B. 141-150, I. Schiødte has described some of them; but as his division of subgenera demands exact investigation of the mouth-parts, another is here followed (Muls. et Rey). I. Schiødte has described and illustrated several of the Bledius larvae. (Nat. Tidsskr. III. R. 3. B., 211, T. XII.)

Key to Subgenera and Species.

1. Pronotum in the ♂ furnished with a long, forwardly directed horn.
The forehead corners in the ♂ erect horn-shaped, in the ♀ auriculate-erect: 1. subgenus Bledius s. str. Muls. et Rey.....3.
- Pronotum in both sexes without horns..... 2.
2. Side- and fore-margin of clypeus finely, elevated margined. Pronotal fore-corners sharp. Fore-corners of the forehead in the ♂ formed like short, erect, flat horns: 2. subgenus Elbidus Muls. et Rey 5.
- Margins of clypeus not margined. Fore-corners of forehead in the ♂ without horn, at most boss-formed: 3. subgenus Blediodes Muls. et Rey 6.
3. Pronotal fore-corners sharply prominent. Forehead corners of the head in the ♂ with a high, cultriform horn. L. 6-7 mm.....
..... 1. Bl. furcatus Oliv.
- Pronotal fore-corners not prominent..... 4.
4. Pronotum rather densely, evenly punctated. Forehead-horns in the ♂ forwardly directed and acute. L. 5.5-7 mm.: 2. Bl. tricornis Herbst.

- Pronotum with isolated punctation and with a few unpunctated spots.
Forehead horns in the ♂ are perpendicular and conical. L. 6-7 mm.
..... 3. Bl. spectabilis Kr.
- 5. Pronotal fore-corners prominent. Elytra with dense and deep punctation. L. 5-6 mm..... 4. Bl. bicornis Ahr.
- Pronotal fore-corners rectangular. Elytra rather sparsely, posteriorly feebly punctated. L. 3.8-5 mm.....5. Bl. diota Schiø.
- 6. Pronotum posteriorly rounded narrowing, either not distinctly set-off, or with very obtuse hind corners..... 7.
- Pronotum posteriorly incurved or obliquely narrowing with distinctly set-off, obtuse- or rectangular hind corners..... 14.
- 7. Pronotum at middle-line finely, yet sharply grooved..... 8.
- Pronotum at middle-line not grooved..... 13.
- 8. Pronotum feebly and rather finely punctated..... 9.
- Pronotum with robust and rather coarse punctation..... 11.
- 9. The head behind eyes with a transversal groove. Elytra reddish yellow with dark suture. L. 4-5 mm..... 6. Bl. opacus Block.
- Head behind eyes not with transversal groove..... 10.
- 10. Elytra $1\frac{1}{2}$ times as long as pronotum; this reddish-brown. L. 3.5 mm.
.....7. Bl. atricapillus Germ.
- Elytra hardly longer than pronotum. L. 3mm..... 8. Bl. nanus Er.
- 11. Head across the eyes as broad or almost as broad as pronotum, dull.:12.
- Head across the eyes distinctly narrower than pronotum, both glistening. Elytra red. L. 3-3.5 mm.....11. Bl. longulus Er.

12. Antennal base reddish; legs yellowish-red. L. 4-4.5 mm.....
.....9. Bl. fracticornis Payk.
- Antennae entirely pitch-brown; legs brownish-red with darker femo-
ral base. L. 3-3.5 mm.....10. Bl. femoralis Gyllh.
13. Elytra red, very little longer than pronotum, latter rather densely
punctated. L. 3.5-4 mm.....12. Bl. crassicollis Lac.
- Elytra brownish-red with dark suture, $1\frac{1}{2}$ times as long as pronotum.
L. 3.5-4 mm.....13. Bl. dissimilis Er.

14. Pronotum at middle-line not or only feebly suggested grooved.....15.
- Pronotum finely, yet sharply middle-grooved.....17.
15. Elytra $1\frac{1}{2}$ times as long as pronotum; this broadly cordate, with
very fine and scattered punctation. L. 3.5-4 mm.: 14. Bl. erraticus Er.
- Elytra not or scarcely longer than pronotum..... 16.
16. Head and pronotum rather dull, the latter sometimes with suggested
middle-groove. L. 2-2.5 mm.....15. Bl. pusillus Er.
- Head and pronotum as well as the rest of the body rather glistening.
L. 2-2.5 mm.....16. Bl. pygmaeus Er.
17. Pronotum nearly twice as broad as long (Hesperophilus Thoms.). El-
ytra yellow with black base and suture. L. 3-3.5 mm.....
.....17. Bl. arenarius Payk.
- Pronotum very little broader than long..... 18.
18. Elytra together as broad as long, darkly metallic-blue (Astycops Thoms.)
L. 4.5-5 mm..... 18. Bl. talpa Gyllh.

- Elytra longer than their breadth together, black..... 19.
- 19. Elytra nearly twice as long as pronotum. L. 4-4.5 mm.....
.....19. Bl. subterraneus Er.
- Elytra $1\frac{1}{3}$ times as long as pronotum..... 20.
- 20. Pronotum $1\frac{1}{2}$ times as broad as long. Legs brownish red, often blackish-brown. L. 3-4 mm..... 20. Bl. rastellus Schiöb.
- Pronotum $1\frac{1}{4}$ times as broad as long. Legs light yellowish-red..... 21.
- 21. Vertex with a foveiform puncture at middle. Antennae pitch-black with reddish-yellow base. L. 3-4 mm....21. Bl. pallipes Gravh.
- Vertex without foveiform puncture. Antennae most often entirely yellowish-red. L. 3-4 mm.....22. Bl. terebrans Schio.

1. Subgenus Bledius s. str. Muls. et Rey.

1. Bl. furcatus Oliv.

(Oliv. Encycl. VIII, 616; Ganglb. Käf. M. II, 615. - taurus Germ. Faun. Ins. Eur. XII, 2; Erichs. Jen. Spec. Staph. 760; Kraatz Ins. D. II, 818; Muls. et Rey Brévip. 1879, 114).

One of the largest, and especially in regard to the sex-characters of the ♂ most characteristic species of the genus.

Black, little shining, finely haired; elytra either entirely brownish-black (typical form) or - and with us most often - yellowish-red, sometimes red with a brownish-black, more or less extensive mutual-spot around scutellum and at the suture (v. Skrimshiri Curt.); abdominal tip, mouth and antennae, also legs brownish-red; occasionally the antennae toward tip, and the femora are black or brownish-black.

The head across the eyes narrower than pronotum and with flatly impressed, anteriorly and on sides upturned margined clypeus, not punctated, in the ♀ dull, and the surface very densely shagreened, and with sharply set off, ax-shaped, erect forehead-corners, and a small fovea at middle of vertex, in the ♂ contrariwise glistening, smooth, and with a large, erect, cultrate horn on each of the forehead-corners anteriorly, antennae rather slender; pronotum anteriorly as broad as elytra, and somewhat broader than long, with acutely prominent fore-corners, posteriorly obliquely narrowing and with obtuse angular hind-corners, all over with rather sparse and robust punctation, the surface densely and very finely shagreened, the middle-line grooved, in the ♂ anteriorly armed with a centrally placed, forwardly directed, long, not grooved, but at tip penicillate horn, in the ♀ not armed. Elytra are

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longer than pronotum, with rather dense and fine, posteriorly finer punctation; abdomen finely and sparsely punctated; hind tibiae at tip with 4-6 rather long spines. L. 6-7 mm.

In the ♂ the ventral abdominal seventh joint posteriorly at each side slightly incurvate and at middle produced.

Distributed at saliferous inland lakes in Middle Europe and on sandy ocean beaches; in Denmark found only in later years at Esbjerg.

(7. 1897, 5. 1898. Jensen-Haarup and others).

2. Bl. tricornis Herbst.

(Herbst. Fuessly Arch. 1784, 149; Erichs. Käf. Mk. Br. I, 578; Kraatz

Ins. D. II, 821; Thoms. Skand. Col. III, 118; Schiødte Nat. Tidsskr. 1866, 145; Muls. et Rey Brévip. 1879, 122; Ganglb. Käf. M. II, 615).

About of size with furcatus, easily separated from this especially by the obtuse angular, not prominent fore-corners of pronotum, and its more robust punctation, also by the sex-characters of the ♂.

Black, finely haired, a little glistening; elytra red or yellowish-red, with a more or less extensive black mutual-spot at base and at the suture; abdominal tip often reddish; antennae brownish-black; legs brownish-red with darker femora and lighter tarsi.

The head (Fig. 154) is across the eyes a little narrower than pronotum, the surface very densely and finely shagreened, sides of forehead in the ♀ with scattered punctation, in the ♂ not punctated, anterior corners of forehead in the ♀ obtuse, boss-formed, in the ♂ developed into rather short, forwardly directed, tapering horns, margins of the clypeus not or hardly margined and not upturned, antennae rather slender; pronotum about as broad as elytra, fully as broad as long, with obtuse angular fore-corners, and posteriorly rounded narrowing, with almost entirely rounded-off hind corners, with robust and very dense punctation, the surface finely shagreened, in middle-line sharply grooved, in the ♂ anteriorly armed with a midplaced, forwardly directed, narrow, at tip haired, at middle often grooved, long horn. Elytra are longer than pronotum, with rather dense and robust, posteriorly finer punctation; abdomen with scattered punctation. Hind tibiae at tip with a single, rather long, projecting spine. L. 5.5-7 mm.

In the ♂ the posterior margin of ventral abdominal seventh joint at middle angularly incurvate.

Distributed in Europe, mainly at the strand and on lake shores; in this country preferably at the strand both in Jutland and on the islands, however also inland (Maribo) or on commons near the shore, both in sand and sand mixed with clay as well as in pure marshland clay, sometimes in large social colonies. Rather local, but as a whole not rare. - The larva can be found at same places as the beetle, however somewhat earlier than this, presumably in the month of August. (Illustrated and described by Schiødte Nat. Tidsskr. III. R. 3. B., 211. T. XII, Fig. 4-14).

Fig. 154. Bledius tricornis Herbst. ♂. (Page 537)

3. Bl. spectabilis Kr.

(Kraatz Ins. D. II, 821, Note; Muls. et Rey Brévip. 1879, 117; Ganglb. Käf. M. II, 616).

Much like tricornis, from which it is separated by the following details:

Elytral color is a deeper red, most often darkly blood-red, nearest the scutellum black; pronotum posteriorly obliquely narrowing, its dorsal surface unevenly and less densely punctated, with a slightly elevated not punctated spot on each side of the middle groove; elytra somewhat more robustly punctated. In the ♂ the horns of the head are more erect than in tricornis, short conical, pronotal horns are considerably longer and reach entirely out over the head, in the entire length distinctly grooved. L. 6-7 mm.

Principally at coasts; in South and Middle Europe more frequent than

tricornis. In Denmark it is heretofore only found in few numbers on the strand at Esbjerg (6. 1898 Løvendal) and in Amager (Rye).

2. Subgenus Elbidus Muls. et Rey.

4. Bl. bicornis Germ.

(Germ. Faun. Ins. Eur. VI, 15; Erichs. Gen. Spec. Staph. 762; Kraatz Ins. D. II, 819; Schiødte Nat. Tidssk. 1866, 146; Muls. et Rey Brévip. 1879, 131; Ganglb. Käf. M. II, 617).

Identified by the sex-characters in the ♂, and the upturned margins of clypeus. Very closely related to furcatus, but smaller, in the ♂ without horns on pronotum and with smaller horns on the head.

Black or brownish black, finely haired, little shine; elytra most often brownish-yellow with dark suture, sometimes entirely brownish-yellow, rarely darkly brown; abdominal tip, mouth, antennae and legs brownish-yellow or yellowish-red.

Head across the eyes is narrower than pronotum, not punctated, very densely shagreened and dull, with flatly impressed forehead, of which the fore-corners in the ♀ are erect, flatly compressed and low, but in the ♂ more robustly developed, formed like short, erect, compressed, at tip obliquely truncated horns, margins of clypeus upturned and finely margined, antennae rather short, with three thickened distal joints.

Pronotum is anteriorly as broad as elytra, with prominent fore-corners and almost straight sides, posteriorly obliquely truncated-narrowed, without distinct hind corners, its dorsal surface densely shagreened, almost dull, rather robust and scattered punctation, middle-line grooved;

elytra longer than pronotum, rather robustly not densely punctated; abdomen especially at middle sparsely punctated; hind tibiae with a single projecting spine at tip. L. 5-6 mm.

In the ♂ the posterior margin of seventh ventral abdominal joint is at middle angularly produced.

On ocean beaches and at salty lakes in Middle Europe; in this country so far only found on the west coast of Sleswick, in marshy clay, especially where the coastal margin forms into small low brinks. Its tunnels run more than 24 inches in depth; can be found in great numbers in spots and (accd.to Prof. I. Schiodte) often in company with Coryphium longicorne (angusticolle ?).

5. Bl. diota Schiodte.

(Schiodte Nat. Tidsskr. III. R. 4. B., 146. - ? hinnulus Erichs. Gen. Spec. Staph. 762).

Very closely allied to and like bicornis, from which it mainly is separated by, that elytra are pale brownish-yellow with narrowly dark-brownish suture and legs likewise lighter brownish yellow, that pronotal fore-corners are not protruding, but rectangular, and that the elytra is more isolated and finer, posteriorly feebly punctated. In the ♂ the horns of the head are acute. furthermore it is as a rule smaller than bicornis. L. 3.8-5 mm.

With certainty only known from this country, where it is distributed and found both at the strand and at inland lake shores (Amager, Nysø, Pedsle, Maribo, Esbjerg, Harboøre, Elokhus). - Bl. hinnulus Br.

is a species from Middle Russia. Its larva is described and illustrated by Schiødte in Nat. Tidsskr. III. R. 3. B., 212, T. XII, Fig. 15-19 = diota-Larven.

In Catal. Col. Eur. Edit. Reitter 1891 and several German authors (inter alia Ganglb.) diota Schiø. is placed as synonymous with tricornis Herbst. With this species it is however not closely connected, but through bicornis Germ. it is more closely related to Bl. furcatus Oliv.

3. Subgenus Blediodes Muls. et Rey.

6. Bl. opacus Block.

(Block. Verz. Ins. Plauens. 117, 7. Fig. 7; Erichs. Käf. Mk. Br. I, 581; Gen. Spec. Staph. 771; Kraatz Ins. D. II, 828; Thoms. Skand. Col. III, 119; Schiødte Nat. Tidsskr. 1866, 148; Muls. et Rey Brévip. 1879, 157; Ganglb. Käf. M. II, 619).

Recognized principally by middle-grooved, feebly punctated, posteriorly rounded-off pronotum, by the color of elytra, and by transversally grooved vertex.

(Page 540)

Black, finely haired; thorax feebly, abdomen rather glistening; elytra reddish or brownish yellow, along the suture narrowly or more broadly pitch-brown; antennae brownish, their base, and mouth, also legs with coxae reddish-yellow.

The head is narrower than pronotum, together with same densely shagreened, with transversally grooved vertex and boss-formed forehead corners, antennae short; pronotum narrower than elytra, a little broader than long, with obtuse fore-corners, posteriorly obliquely narrowing and with very obtuse hind corners, slightly convex, finely middle-groov-

ed, with rather fine, flat and isolated punctation; elytra $\frac{1}{3}$ longer than pronotum, densely and rather deeply punctated; abdomen sparsely punctated; hind tibiae toward tip with 4-5 fine spines. L. 4-5 mm.

In the ♂ the ventral abdominal seventh joint broadly incurvate and with prominent corners; in the ♀ the posterior margin of same joint at middle roundedly produced.

Distributed principally in the northern Middle Europe on moist sandy ground; in this country everywhere rather common, at the brims of rivers and lakes, and at the beach, sometimes very numerous.

7. Bl. atricapillus Germ.

(Germ. Faun. Ins. Eur. XI, 4; Erichs. Gen. Spec. Staph. 773; Kraatz Ins. D. II, 832; Schiötte Nat. Tidsskr. 1866, 147; Muls. et Rey Brévip. 1879, 160; Ganglb. Käf. M. II, 619).

A small species, easily identified by the color and scattered punctation of the middle-grooved pronotum, and by proportionally long elytra.

Pitch-black or pitch-brown, very finely haired, anteriorly feebly, posteriorly rather strongly glistening; pronotum usually reddish-brown; elytra pale brownish-yellow with a dark spot at middle of the suture; antennae brownish-red, their base, mouth and legs reddish-yellow.

The head in the ♀ is narrower than pronotum, hardly punctated, as well as pronotum with surface very finely shagreened and therefore dull, antennae short; pronotum narrower than elytra, broader than long, with straight, parallel sides, posteriorly short, obliquely narrowing and with rounded-off obtuse hind corners, convex, middle-grooved, feebly

and very sparsely punctated, with somewhat greasy shine; elytra $1\frac{1}{2}$ times as long as pronotum, rather densely and robustly punctated; abdomen very sparsely punctated; hind tibiae with single spines. L. 3.5 mm.

In the ♂ the head is broader than in the ♀, about as broad as pronotum; posterior margin of ventral seventh abdominal joint is in the ♂ rounded off, but less produced than in the ♀.

In Middle Europe at salt waters; with us here and there in southern Jutland in marshes on baren spots in the marshy clay" (I. Schipdte 1857); Refnaes (Fabr. de Tengnagel, 6. 1898) a larger series.

8. Bl. nanus Er.

(Erichs. Gen. Spec. Staph. 773; Kraatz Ins. D. II, 833; Muls. et Rey Brévip. 1879, 163; Ganglb. K&f. M. II, 620).

Very closely allied to atricapillus, but a little smaller, more glistening and with shorter elytra.

Black, very finely haired, glistening; pronotum sometimes pitchy-brownish; elytra yellow, along the suture more or less broadly black; antennae pitchy-brownish, their first two joints, mouth and legs reddish-yellow.

Head and pronotum indistinctly shagreened; pronotum a little broader than the head, a little narrower than elytra, feebly transverse, with rounded-off obtuse hind corners, convex, middle-grooved, scattered and fine punctation; elytra a little longer than pronotum, rather robustly and densely punctated, slightly convex; abdomen posteriorly feebly broadened, sparsely and feebly punctated; hind tibiae and sex-characters same as in the preceding species. L. 3 mm.

Distributed in Middle Europe. In Denmark a few are found at Sønder-
vig in Holmsland, and Nykøbing F. (Fabr. de Tengnagel, Aug. - Septbr.).

9. Bl. fracticornis Payk.

(Payk. Mon. Car. App. 135; Erichs. Käf. Mk. Br. I, 579; Gen. Spec. Staph. 767; Kraatz Ins. D. II, 829; Thoms. Skand. Col. III, 118; Schiø-
dte Nat. Tidsskr. 1866, 147; Muls. et Rey Brévip. 1879, 148; Ganglb.
Käf. M. II, 620).

One in regard to the color of elytra variable species, among the
closest allied species mainly recognized by the sculpture, and by the
color of the legs.

Black, finely haired somewhat glistening; elytra either entirely
black or brownish-red with more or less broadly black base and suture;
abdominal tip occasionally reddish-brown; antennae pitch-brown with
reddish base; mouth reddish; legs reddish-yellow with somewhat darker
coxae. -- Fig. 155. Bledius fracticornis Payk. --

The head (Fig. 155) across the eyes almost as broad as pronotum,
dully shagreened, antennae rather short; pronotum a little narrower
than elytra, hardly broader than long, posteriorly narrowing and with
rounded off hind corners, convex, sharply middle-grooved, robust and
rather densely punctated, surface distinctly shagreened; elytra distinct-
ly longer than pronotum, densely and robustly punctated; abdomen sparse-
ly punctated; hind tibiae toward tip finely spiniferous. L. 4-4.5 mm.

In the ♂ the posterior margin of ventral abdominal seventh joint
at each side incurvate; posterior margin of the sixth incurvate at mid-
dle and bordered with a fine, whitish membrane.

Distributed in North and Middle Europe. Common everywhere in this country on semidamp sandy or clayey slopes, in ditches, at river- and lake-brims, on semidamp earth-mould and heather-ground. The form with red elytra is less frequent than the one with entirely black "and is seemingly most at home in earth-mould" (I. Schiødte).

The larva is described and illustrated by Schiødte Nat. Tidsskr.

III. R. 3. B., 213, T. XII, Fig. 20.

10. Bl. femoralis Gyllh.

(Gyllh. Ins. Suec. IV, 497; Erichs. Gen. Spec. Staph. 768; Kraatz Ins. D. II, 830; Thoms. Skand. Col. III, 119; Muls. et Rey Brévip. 1879, 151; Ganglb. Käf. M. II, 620).

Very closely allied to fracticornis, but smaller, with darker antennal base and legs, and more robustly punctated elytra, recognized also by sex-characters in the ♂.

Black, finely haired, somewhat glistening; elytra red or darkly chestnut-brown, more rarely black; antennae entirely pitch-brown; mouth and legs brownish-red, femoral base darker.

The head as broad as pronotum, dully shagreened, antennae short; pronotum somewhat narrower than in fracticornis, narrower than elytra, about as long as broad, posteriorly narrowing and with almost rounded off hind corners, sharply middle-grooved, rather robustly and densely punctated, the surface densely shagreened, with somewhat dull shine; elytra longer than pronotum, very robustly and densely punctated; abdomen sparsely punctated, more strongly glistening than the thorax; hind-tibiae toward tip finely spiniferous. L. 3-3.5 mm.

1. The first part of the paper is devoted to the

study of the properties of the function

defined on the interval $[0, 1]$ by the formula

where α is a real number, $0 < \alpha < 1$.

It is shown that the function is continuous on the interval

and has a finite limit at the point $x = 1$.

2. The second part of the paper is devoted to the

study of the function

defined on the interval $[0, 1]$ by the formula

where α is a real number, $0 < \alpha < 1$.

It is shown that the function is continuous on the interval

and has a finite limit at the point $x = 1$.

3. The third part of the paper is devoted to the

study of the function

defined on the interval $[0, 1]$ by the formula

where α is a real number, $0 < \alpha < 1$.

It is shown that the function is continuous on the interval

and has a finite limit at the point $x = 1$.

4. The fourth part of the paper is devoted to the

study of the function

defined on the interval $[0, 1]$ by the formula

where α is a real number, $0 < \alpha < 1$.

It is shown that the function is continuous on the interval

In the ♂ the posterior margin of the sixth ventral abdominal joint at middle incurvate and bordered with a light membrane and on each side of the curve with a small tooth.

Distributed in Middle Europe, everywhere rare. In this country very rare, and heretofore found only in western Jutland (Breininggaard, east of Ringkøbing, at a water-place 1857, Dr. Meinert; Kjettrupgaard at Blokhus, July, Kmrhr. Fabr. de Tengnagel).

11. Bl. longulus Er.

(Erichs. Käf. Lk. Br. I, 579; Gen. Spec. Staph. 768; Kraatz Ins. D. II, 830; Muls. et Rey Brévip. 1879, 146; Ganglb. Käf. M. II, 619).

A small species, identified by proportionately narrow head, robust punctation, middle-grooved pronotum, the rather strong gloss of the body, and the color of elytra.

Glistening black, very sparsely haired; elytra vividly red or yellowish-red; antennae often brownish at middle, elsewhere together with mouth and legs reddish-yellow.

The head is considerably narrower than pronotum, posteriorly with simple punctation, -----(Page 543) ----- the surface finely shagreened, antennae short; pronotum about as broad as elytra and about as long as broad, posteriorly narrowed and with obtuse-angular, as a rule distinct hind corners, rather convex, sharply middle-grooved, coarse, but not dense punctation, the surface rather finely reticulated; elytra somewhat longer than pronotum, with denser and much finer punctation than same; abdomen almost smooth; hind tibiae at tip with fine single spines. L. 3-3.5 mm.

In the ♂ the posterior margin of the seventh ventral abdominal joint at middle less produced than in the ♀.

Distributed in Middle Europe; rare in our country; on semidamp sandy slopes and on sandy beaches (Lønstrup, Hvorup at N. Sundby, Esbjerg, Fa-nø; Nykøbing F.).

12. El. crassicollis Lac.

(Boisd. Lac. Faun. Ent. Paris. I, 456; Erichs. Käf. Mk. Br. I, 580; Gen. Spec. Staph. 770; Kraatz Ins. D. II, 835; Thoms. Skand. Col. III, 120; Schiødte Nat. Tidsskr. 1866, 147; Muls. et Rey Brévip. 1879, 178; Ganglb. Käf. M. II, 621).

In appearance rather like longulus, but most often a little larger and with broader head; from this however separated mainly in that pronotum is not grooved in middle-line.

Glistening black, sparsely haired; elytra red, the suture anteriorly often brownish; abdominal tip, antennae, mouth and legs yellowish-red.

The head is almost as broad as pronotum, posteriorly with simple and fine punctation, with a little groove in middle of vertex, surface densely and finely reticulated, antennae rather slender; pronotum hardly narrower than elytra, as long as broad, posteriorly narrowed and with rounded off obtuse hind corners, rather convex, rather densely and robustly punctated, the surface very feebly shagreened, at middle-line slightly elevated, not grooved, smooth; elytra only a little longer than pronotum, with dense and robust punctation; abdomen with simple punctation; hind tibiae toward tip finely spiniferous. L. 3.5-4 mm.

In the ♂ the posterior margin of sixth ventral abdominal joint at

middle broadly incurvate; the curve is membranous and the margin at each side with a short, acute, outwardly directed tooth.

Distributed in Middle and North Europe. With us it is local and as a whole rare, but not partial to locality (Aalborg, Randers, Haderslev; Naerum Oredrev; Amager, Møen.).

13. Bl. dissimilis Er.

(Erichs. Gen. Spec. Staph. 769; Kraatz Ins. D. II, 835; Muls. et Rey Brévip. 1879, 175; Ganglb. Käf. M. II, 622).

In color, punctation and size etc. very closely allied to crassicollis, and pronotum like in same not middle-grooved, but at middle-line

smooth, slightly elevated. It differs from said species especially in that: the elytra are somewhat darker, brownish-red, at the suture more or less extensively brownish-black, rarely entirely black, also longer, $1\frac{1}{3}$ times as long as pronotum. This with a little more isolated punctation than in crassicollis and the surface somewhat more distinctly shagreened. - In the ♂ the sex-characters are mainly identical in both species, however the tooth on each side of the incurve of the sixth abdominal joint in dissimilis somewhat longer, and curved upward at tip.
L. 3.5-4 mm.

In Middle Europe. In this country heretofore found only at Gjedser (Kmrhr. Fabr. de Tengnagel). Said to particularly favour sandy clay-ground. The form with entirely black elytra, v. nigricans Er., occur together with the typical form.

14. Bl. erraticus Er.

(Erichs. Käf. Mk. Br. I, 582; Gen. Spec. Staph. 772; Kraatz Ins. D. II, 836; Schiødte Nat. Tidsskr. 1866, 148; Muls. et Rey Brévip. 1879, 181; Ganglb. Käf. M. II, 622).

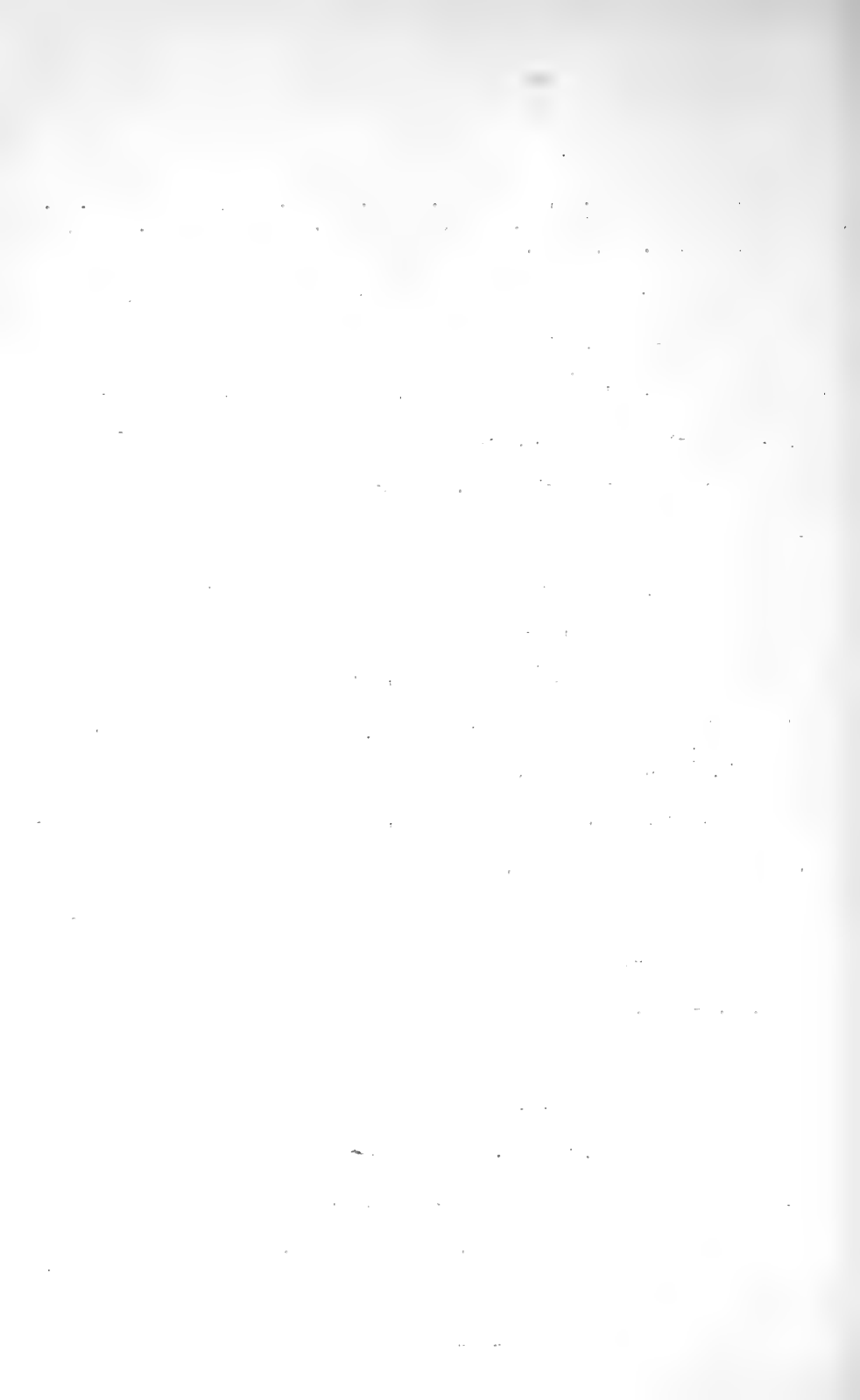
Identified especially by the form and sculpture of pronotum.

Black or pitch-brown, finely and sparsely haired, anteriorly dull, elytra and especially abdomen glistening; pronotum often brownish-red; elytra yellowish-red or chestnut-brown with anteriorly dark suture; the antennae or at least their base, mouth and legs brownish or reddish yellow.

The head is a little narrower than the pronotum, posteriorly with fine and simple punctation, its surface as well as that of pronotum dully shagreened, antennae rather slender; pronotum broadly cordate, only a little narrower than elytra, considerably broader than long, posteriorly incurved obliquely, and with slightly prominent, almost rectangular hind corners, slightly convex, very scattered and fine punctation, at middle not punctated, and in middle-line without groove; elytra $1\frac{1}{3}$ times as long as pronotum, rather finely and densely punctated; abdomen sparsely punctated; hind tibiae toward tip finely spiniferous. L. 3.5-4 mm.

In the ♂ the posterior margin of the seventh ventral abdominal joint at each side feebly emarginate.

Distributed in Middle Europe. In this country heretofore found singly on the ocean beach at Neksø (6. 1842, I. Schiødte), later at Møens Klint and in Vendsyssel (Fabr. de Tengnagel). It prefers moist sandy ground.



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15. Bl. pusillus Er.

(Erichs. Käf. Mk. Br. I, 583; Gen. Spec. Staph. 773; Kraatz Ins. D. II, 833; Ganglb. Käf. M. II, 623. - pygmaeus Fauv., Muls. et Rey Brévip. 1879, 167).

One of the smallest species of the genus, identified by very short elytra, and rather dull, indistinctly middle-grooved pronotum.

Black, finely haired; head and pronotum rather dull, elytra and ab-

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domen glistening; elytra, the brownish antennae at base, mouth and legs reddish-yellow.

Body narrow and rather convex; head hardly as broad as pronotum, the surface in both very finely shagreened, antennae short; pronotum hardly as broad as elytra, feebly transverse, posteriorly obliquely narrowing, and with distinct hind corners, convex, with rather isolated and fine punctation, at middle-line either feebly and often indistinctly, or not grooved; elytra not longer than pronotum, sometimes shorter than this, posteriorly feebly broadened, with rather isolated and not deep punctation; abdomen toward tip broadened, very finely and sparsely punctated; hind tibiae toward tip with single spines. L. 2-2.5 mm.

In the ♂ the posterior margin of seventh ventral abdominal joint at each side feebly emarginate.

Distributed in Middle Europe, but everywhere very rare. With us heretofore found only in Fanø (Kmrhr. Fabr. de Tengnagel).

16. Bl. pygmaeus Er.

(Erichs. Käf. Mk. Br. I, 583; Gen. Spec. Staph. 774; Kraatz Ins. D.

II, 838; Ganglb. Käf. M. II, 623. - agricultor Heer Faun. Helv. I, 576; Kraatz Ins. D. II, 837. - pusillus Fauv. Muls. et Fey Brévip. 1879, 186).

In size and form like pusillus, but posteriorly more shining, pronotum at middle-line without groove, elytra darker.

Black, finely haired, rather glistening; elytra reddish-brown, often brownish-black; pronotum sometimes pitchy brownish and elytra yellowish red; abdominal tip often brownish; antennae reddish-brown, their base, mouth and legs reddish-yellow.

The head is hardly as broad as pronotum, the surface of both finely reticulated, antennae rather short, toward tip rather strongly thickened; pronotum as broad as elytra, feebly transverse, posteriorly slightly incurved-narrowed and with distinct, feebly obtuse-angular corners, convex, with scattered and not deep punctation, with rather broad, slightly elevated, not punctated and not grooved middle-streak; elytra scarcely longer than pronotum, with parallel sides, rather isolated and fine punctation; abdomen posteriorly feebly broadened, almost without punctation; hind tibiae with a few fine spines at tip. L. 2-2.5 mm.

In the ♂ the posterior margin of the seventh ventral abdominal joint at each side slightly incurvate, and the space between curves at tip very feebly emarginated.

Distributed in Middle Europe, but everywhere very rare. In Denmark so far found only in Hvorup hills north of N. Sundby on semi-damp sand slopes, numerous and partly together with El. longulus and opacus (8. 1895, Author et. al.).

(Hesperophilus Thoms. and Astycops Thoms.).

17. Bl. arenarius Payk.

(Payk. Faun. Suec. III, 382; Erichs. Käf. Lk. Br. I, 588; Gen. Spec. Staph. 778; Knechtz Ins. D. II, 826; Thoms. Skand. Col. III, 121 (Hesperophilus); Schiodte Nat. Tidsskr. III. R. 1866, 180; Muls. et Rey Brévip. 1879, 189; Ganglb. Käf. M. II, 624).

A small, characteristic species, easily identified by strongly prominent mandibles, also by the characters of pronotum and elytra.

Black, feebly greasy glistening; head, pronotum, and abdomen with sparse and rather long, but elytra with dense and very short, whitish hair-vestiture; elytra straw-colored, at base and suture more or less widely black; occasionally almost entirely black; the antennal intermediate joints, mandibles, tibiae and tarsi rust-colored.

Body (Fig. 156) is of equal breadth; head much smaller than pronotum, both with rather fine and isolated punctation, the surface distinctly shagreened, mandibles strongly prominent, antennae short and robust, and with three-jointed set-off club; pronotum hardly narrower than elytra, almost twice as broad as long, with posteriorly strongly oblique and suddenly constricted sides, and with sharp, almost rectangular hind corners, rather convex, finely, but sharply middle-grooved; elytra proportionally long, almost twice as long as pronotum, finely and densely punctated; abdomen of equal breadth, sparsely punctated; hind tibiae in outer margin with 4-5 rather robust spines. L. 3-3.5 mm.

In the ♂ the mandibles are somewhat more prominent than in the ♀, and inside of the thinned out grasping-part armed with a more robust tooth. ---- (Fig. 156. Bledius arenarius Payk.) -----

Distributed in North and Middle Europe. Rather common in Denmark, here and there numerous on sandy beaches and damp places in the downs, more rarely farther inland. Its extensive dwellings on the strand is easily recognized by innumerable, small, upturned sand-mounds; they are washed over by the tide-water, but the animals then go deeper down in the sand.

18. Bl. talpa Gyllh.

(Gyllh. Ins. Suec. II, 448; Erichs. Gen. Spec. Staph. 777; Kraatz Ins. D. II, 823; Thoms. Skand. Col. III, 122 (Astycops); Schiødte Nat. Tidsskr. III. R. 1866, 150; Muls. et Rey Brévip. 1879, 196; Ganglb. Käf. M. II, 624).

A proportionately broad species of robust structure, easily identified by the elytral color.

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Black, distinctly gray-haired, glistening, with dull head and pronotum; elytra darkly metallic-blue; tarsi reddish.

The head (Fig. 157) is narrower than pronotum and together with same feebly, sometimes indistinct, scattered punctation, the surface of both very finely and densely dully-shagreened, labrum with a deep incision at middle, and thereby bilobed, mandibles prominent, antennae rather long; pronotum much narrower than elytra, broadly cordate, with posteriorly deeply incurved sides and rectangular hind corners, slightly convex, very finely middle-grooved; elytra 1½ times as long as pronotum and together as broad as long, rather robustly and densely punctated; abdomen sparsely punctated; hind tibiae with a single spine at tip. L. 4.5-5 mm.

In the ♂ the posterior margin of two ventral abdominal joints at each side slightly incurved. --- (Fig. 157. Bledius talpa Gyllh.) ---

Distributed in the northern part of Middle Europe and in North Europe. In our country rare and local; on small sandy brinks at streams and on lake shores (Blokhus, Lerbaek, Silkeborg; at Fursø and Esrom lake, Tisvilde and other places). Its burrows lie rather deep and are not very noticeable on the surface.

The larva is described and illustrated by I. Schiødte (Nat. Tidsskr. III. R. 3. B., 214, T. XII, Fig. 23).

19. Bl. subterraneus Er.

(Erichs. Käf. Mk. Br. I, 584; Gen. Spec. Staph. 777; Kraatz Ins. D. II, 823; Schiødte Nat. Tidsskr. III. R. 1866, 150; Muls. et Rey Brévip. 1879, 199; Ganglb. Käf. M. II, 624. - ? pallipes Thoms. Skand. Col. III, 119).

Closely allied to talpa and like this with bilobed labrum, but smaller, with narrower, proportionately longer elytra.

Black, finely haired, rather glistening, with dull head and pronotum; antennae pitch-brown, sometimes with lighter base; mouth and legs brownish-yellow, femora often darker.

The head is a little narrower than pronotum, both with surface very densely and finely dull-shagreened, mandibles prominent, labrum at middle deeply incised and thereby bilobed, antennae rather short; pronotum distinctly narrower than elytra, $1\frac{1}{2}$ times as broad as long, with rounded, posteriorly sudden incurved sides and prominent, acute rectangular hind corners, convex, finely middle-grooved, isolated and flat punctation; elytra almost twice as long as pronotum, and longer than their breadth together, finely and densely punctated; abdomen sparsely punctated; hind tibiae with a single, fine spine at tip. L. 4-4.5 mm.

In the ♂ the posterior margin of the seventh ventral abdominal joint at each side very feebly emarginate.

Distributed in Middle and North Europe. In Denmark rare and local; on sandy river and lake brinks, sometimes numerous (N. Vosborg, at Karup brook and Hald lake, Silkeborg Langsø, Grejsdalen; Odense; Lellinge brook at Kege, vicinity of Copenhagen).

20. Bl. rastellus Schio.

(Schiedte Nat. Tidsskr. III. R. 4. B. 1866, 149 (Bargus). - ? rastellus Thoms. Skand. Col. IX, 291. - fuscipes Rye. Ent. Monthl. Mag. 1865, 154).

In appearance rather like subterraneus Er. and often, however erroneously, treated as synonymous with this (Catal. Col. Eur. Ed. III, Ganglb. Käf. M. II, 624 and other places). It is separated mainly in that: labrum is not bilobed, mandibles less prominent, pronotum proportionately broader, its hind corners obtuse angular, elytra shorter and together with pronotum more robustly punctated. It is closely allied to the species pallipes and terebrans, but rastellus is more robust, with broader pronotum and most often darker antennae and legs.

Black, finely haired, glistening, with rather dull head and pronotum; antennal basal joint most often reddish-yellow; mouth and legs are brownish red, often however darker, sometimes blackish-brown.

The head is narrower than pronotum, the surface of both densely shagreened, and with a small punctiformis fovea at middle of vertex, foremargin of labrum at middle feebly incurvrd, antennae rather short and robust; pronotum almost as broad as elytra, $1\frac{1}{2}$ times as broad as long, with

strongly rounded, posteriorly incurved sides and obtuse angular, yet distinctly formed hind corners, convex, sharply middle-grooved, rather finely and not densely punctated; elytra considerably longer than pronotum, longer than their breadth together, densely and rather robustly punctated; abdomen almost without punctation; hind tibiae at tip with a few, fine spines. L. 3-4 mm.

In the ♂ the posterior margin of the seventh ventral abdominal joint on each side of the prominent middle distinctly emarginate.

Heretofore only recorded from Denmark, England, Scotland and Skaene (?). In this country it is local and as a whole rare; it occurs especially on sandy river- and lake-brims at or in the nearness of the strand, and on moist, sandy heather ground in the down-regions (Skagen, Raabjerg, Blokhus, Klitmøller and at Vandet lake in Thy; Botz; Neksø.).

21. El. pallipes Gravh.

(Gravh. Mon. 197; Erichs. Gen. Spec. Staph. 772; Kraatz Ins. D. II, 824; Schizide Nat. Tidsskr. III. R. 1866, 149; Ganglb. Käf. M. II, 618. - ? pallipes Thoms. Skand. Col. III, 119).

Head narrow and of equal breadth; among the closest allied black species especially recognized by the light color of the legs and the punctiformis fovea of the vertex.

Black, somewhat glistening, with duller head and pronotum, finely bearded; the mouth most often brownish-red; antennal base and especially the legs pale reddish-yellow.

The head is almost as broad as pronotum and with a punctiformis fovea

at middle of vertex, the surface of both is distinctly chagreened, antennae rather robust; pronotum a little narrower than elytra, a little broader than long, with slightly rounded, posteriorly rather rectilinear inclined sides and obtuse angular, yet distinctly prominent hind corners, convex, isolated and flat punctation and finely middle-grooved; elytra $1\frac{1}{3}$ times as long as pronotum, longer than their breadth together, densely and rather robustly punctated; abdomen very sparsely and finely punctated; hind tibiae toward the tip especially finely spiniferous. L. 3-4 mm.

In the ♂ the posterior margin of the seventh ventral abdominal joint at middle feebly, in the ♀ more strongly produced.

Distributed in North and Middle Europe. In this country rather rare. It is found at the strand, as well as inland at river- and lake-shores and on other moist sandy ground, often numerous.

22. El. terebrans Schiø.

(Schiedte Nat. Tidsskr. III. R. 4. E. 1866, 149 [Eargus]).

Very closely allied to and almost identical with pallipes Jr. and often placed as synonymous with this (Cat. Col. Eur. Ed. III, Ganglb. Käf. M. II, 618 and other places). But the body is as a rule somewhat more robust, antennae lighter, the vertex without fovea, pronotum broader, posteriorly incurved constricted, and posterior corners almost rectangular, elytral and abdominal punctation is somewhat more robust. - From the likewise very closely allied rastellus it is separated mainly in that, the vertex is without fovea and antennae and legs of lighter color; ordinarily it is also somewhat smaller and narrower, and stands in so far midwise between this and pallipes.

Black, finely haired, glistening, with dull head and pronotum; mouth, antennae and legs yellowish-red; the middle club-joint of the antennae often brownish. L. 3-4 mm.

On sandy brinks, at brooks, and on the sides of sandy ditches and like places; distributed in this country and here and there sometimes in masses, but as a whole rare (Vendsyssel, Aalborg, Vosborg, Grejsdalen; at Lellinge river; Dynddalen in Bornholm).

92. Genus Platystethus Mannh.,

(Mannh, Brach. 46; Erichs. Käf. Mk. Br. I, 585; Gen. Spec. Staph. 781; Kraatz Ins. D. II, 838; Muls. et Rey Brévip. 1879, 13; Ganglb. Käf. M. II, 627. - Platystethus + Pyctocraerus Thoms. Skand. Col. III, 122, 125).

The body is oblong, flattish convex, on dorsal side not haired; head porrect, large in the ♂ smaller in the ♀, posteriorly sometimes (in subgenus Pyctocraerus) distinctly constricted, with proportionately small, somewhat protruding, round eyes, and with rather short, distally thickened antennae, which are inserted under a boss anteriorly upon the side-margin of forehead, and which after the thickened, somewhat scape-formed first joint are somewhat geniculate. Corners of the clypeus are sometimes, especially in the ♂, acutely, spine-formedly produced; mandibles are rather short, armed with 2-3 robust teeth; maxillary palpal last joint subulate.

Pronotum is at least as broad as elytra, somewhat separated from these, transverse and posteriorly semicircular, inasmuch as the sides and posterior margin are together arcuate, its fore-margin is at each side feebly outcurved, the dorsum slightly convex, sharply middle-grooved. Scutellum,

which partly placed free upon a narrow mesothorax strip before the elytral base, is proportionately large, triangular and with two small foveae. The elytra are short, at most as long as pronotum and with a distinct sutural groove and rounded off sutural corners, side-margins, most often also posterior margins are finely bordered. Abdomen is rather short and broad, posteriorly feebly broadened, its sides stoutly margined. Prosternum under the fore-coxae is at middle membranous; fore-coxae large, middle-coxae rather broadly separated; legs short, the first four tibiae at outer margin spiniferous, and the foremost at tip with a distinct incision, all tarsi are three-jointed, and the claw-joint longer than the other two short joints together.

The species live principally at manure and rotting plants. The following are distributed in North and Middle Europe.

Key to Subgenera and Species.

1. Head distinctly constricted behind, without groove along inner margin of the eye. Elytral surface longitudinally aciculated: 1. Subg. Pyctocraerus Thoms. - Pronotum deeply middle-grooved. L. 2.5-4 mm..... 1. P. arenarius Fourcr.
- Head not constricted behind, with a fine, margined groove along inner margin of the eye. Elytral surface either finely reticulated or smooth between the punctures: 2. Subg. Platystethus s. str. Thoms..... 2.
2. Elytra in surface very finely reticulated..... 3.
- Elytra with smooth surface between punctures..... 4.

3. Head and pronotum glistening. Elytra at middle brownish-yellow. L. 2.5-4 mm..... 2. P. cornutus Gravh.
- Head and pronotum dull. Elytra dully black. L. 2.5-4 mm.....
..... 3. P. alutaceus Thoms.
4. Pronotum and elytra rather robustly and densely punctated. L. 2.5-3 mm..... 4. P. nodifrons Sahlb.
- Pronotum and elytra with fine and scattered punctation. L. 2-3 mm.
..... 5. P. nitens Sahlb.

1. Subgenus Pycnocraerus Thoms.

1. P. arenarius Fourcr.

(Fourcr. Ent. parisien. I. 172; Ganglb. Käf. M. II, 630. - morsitans Payk., Erichs. Käf. Mk. Br. I, 585; Gen. Spec. Staph. 782; Kraatz Ins. D. II, 842; Thoms. Skand. Col. III, 126; Muls. et Rey Brévip. 1879, 16).

In relation to the following species easily identified by the distinct constriction of the head.

Black, glistening; elytra brown, disk most often reddish-brown; legs brownish-yellow with brownish-black femora.

The head is as broad as (♂) or somewhat narrower than pronotum (♀), distinctly constrictly behind, anteriorly impressed, the impression finely reticulated, occasionally almost smooth, vertex with rather dense and robust punctation, and with a deep, short groove in middle-line, which posteriorly runs out into the deep transversal groove of the constriction, antennae rather short and robust; pronotum at least as broad as elytra, transverse, slightly convex, deeply middle-grooved, on sides with rather

robust and dense, at middle more isolated longitudinal aciculated-punctuation, sides with single outstanding bristles; elytre short, not longer than pronotum, with rather robust and isolated punctuation and the surface very finely, densely longitudinally aciculated, their posterior margin not margined; abdomen not punctated, but very finely reticulated.

L. 2.5-4 mm.

In the ♂, which often is larger and more robust than ♀, especially the head is much thicker and larger than in the latter, with longer, more developed temples, a deeper, at middle angular constriction-groove, and somewhat longer antennae, etc.; pronotum is likewise larger than in the ♀, broader than elytra; posterior margin of seventh ventral abdominal joint is at middle triangularly incised and on each side of the incision with a rather long, erect spine.

In manure, at rotting plants and under leaves on semidamp ground; distributed in Europe and North Asia; everywhere in this country not rare. - The larva is described and illustrated by Prof. I. Schiødte (Naturhist. Tidsskr. III. R. 3. B., 1864-65, 210, T. XI, Fig. 15-22 and T. XII, Fig. 3), later also reared by Cand. W. Schlick.

2. Subgenus Platystethus s. str. Thoms.

2. P. cornutus Gravh.

(Gravh. Micr. 109; Erichs. Käf. Mk. Br. I, 586; Gen. Spec. Staph. 782 and Kraatz Ins. D. II, 841 (ex parte); Thoms. Skand. Col. III, 122; Muls. et Rey Brévip. 1879, 23; Ganglb. Käf. M. II, 631).

Identified mainly by the sculpture of elytra, and sex-characters of the ♂.

(Page 551)

Black, rather glistening; elytral middle-disk brownish-yellow; legs pitch-brown, often with lighter tibiae and tarsi.

(Page 552)

The entire dorsal plane of the body is all over very densely and finely leathery-reticulated; the head (Fig. 158) in the ♀ a little narrower than pronotum, in robust ♂♂ as broad as this, posteriorly not constricted, across middle rather densely and robustly, anteriorly not punctated, with a very fine groove along inner margin of the eye, the vertex with three short grooves and posteriorly with fine transverse grooves, antennae longer than in arenarius; pronotum anteriorly as broad as elytra, $1\frac{1}{2}$ times as broad as long, slightly convex, with fine and isolated punctation, sharply middle-grooved; elytra as long as, or shorter than pronotum, punctated like this, their posterior margin very finely marginated; abdomen not punctated. L. 2.5-4 mm.

In the ♂, which often is considerably larger than ♀, the head is most often larger and thicker, its temples longer, and grooves of the forehead more distinct and deeper than in the latter, fore-corners of clypeus are more or less elongated spiniform, and the antennae rather slender. Sixth ventral joint of abdomen (Fig. 159) is impressed posteriorly at middle, the impression roundedly emarginated with sharp corners; the seventh joint is at middle feebly impressed and smoothed, hind-corners of impression inwardly directed bidentate.

Fig. 158. Platystethus cornatus Gravh. ♂.

Fig. 159. Last three ventral abdominal joints of Platystethus cornatus Gravh. ♂.

At water edges or digging in moist sand brinks; often in company with species of Bledius; distributed same as arenarius, at most places in this country rather rare.

3. P. alutaceus Thoms.

(Thoms. Skand. Col. III, 123; Muls. et Rey Brévip. 1879, 26; Ganglb. Käf. M. II, 631).

From cornutus, of which it apparently is an aberration, and with which it in discription often is united (Erichs., Kraatz et. al.), it is separated only in that the elytra are entirely black, completely dull, finer and more sparsely punctated, and the surface more distinctly and densely reticulated. L. 3-4 mm.

Together with the preceding, but much rarer than this.

4. P. nodifrons Sahlb.

(Sahlb. Ins. Fenn. I, 412; Erichs. Gen. Spec. Staph. 783 (ex parte); Kraatz Ins. D. II, 844; Thoms. Skand. Col. III, 124; Muls. et Rey Brévip. 1879, 27; Ganglb. Käf. M. II, 632).

Smaller than the preceding species, identified mainly by the punctation of the thorax.

Black, glistening; elytra black, brown or reddish-brown; legs reddish-yellow, femora often brown.

The thorax* with robust and rather dense, at middle of head and pronotum* however more isolated punctation, clypeus smooth; the head either a little broader (δ) or narrower than pronotum (ϕ), posteriorly not constricted, the vertex most often not transversely grooved, but at middle with a fine, often very short, almost punctiformis longitudinal groove,

and a fine groove along inner margin of the eye; pronotum anteriorly as broad as elytra, almost twice as broad as long, sharply middle-grooved; elytra as long as pronotum, with distinct suture-stripe and finely margined posterior margin; abdomen not punctated, surface feebly reticulated. L. 2.5-3 mm.

In the ♂ the head is broader than in the ♀ and the antennae longer; the seventh ventral abdominal joint at middle and posteriorly with a smooth, oviform, more or less distinct impression.

On damp ground, distributed in North and Middle Europe, with us rather rare.

5. P. nitens Sahlb.

(Sahlb. Ins. Fenn. I, 413; Kraatz Ins. D. II, 845; Thoms. Skand. Col. III, 124; Muls. et Rey Brévip. 1879, 38; Ganglb. Käf. M. II, 632. - var. striatulus Heer Faun. helv. 218).

As a whole very closely allied to, and in color like nodifrons, with which it sometimes is united (Erichs. Gen. Spec. Staph. 783). Ordinarily it is however smaller, always more glistening, specular; the thorax, especially pronotum and elytra, with much finer and more scattered punctation, the head in both sexes about as broad as pronotum, its grooves finer or sometimes feeble; pronotum a little longer than in nodifrons, and posteriorly more narrowing; foveae of scutellum at base finer, punctiformis; elytral suture-groove fine. L. 2-3 mm.

In the ♂ the head is very little larger than in the ♀, but the forehead sometimes on each side, besides the groove along inner margin of the eye, inside of this with two impressed longitudinal lines (striatulus Heer).

and its fore-margin with a very fine spine at each side. In the typical form the seventh ventral abdominal joint bears at middle a slight impression with more or less sharp side-margins, which are spiniform, produced out over the posterior margin; this at each side with a very small tooth.

Principally distributed in the southern Middle Europe; in Denmark it is heretofore taken only singly at Randers (O. Jakobsen) and Copenhagen (Schiodte). In Skaane found at Lund under rotting plants (Thoms.).

93. Genus Oxytelus Gravh.

(Gravh. Micr. 1802, 101; Erichs. Käf. Mk. Br. I, 588; Gen. Spec. Staph. 785; Kraatz Ins. D. II, 847; Muls. et Rey Brévip. 1879, 43; Ganglb. Käf. M. II, 633. - Oxytelus + Caccoporus + Epomotylus + Tanyraerus + Anotylus Thoms. Skand. Col. III, 126-130).

Body of rather equal breadth and flatly depressed, anteriorly scarcely haired; head porrect, constricted behind, but with short and broad neck, most often with small, more rarely large eyes, and in proportion to these longer or very short temples; antennae but feebly geniculated, thickened distally, inserted under a boss before the eyes, their first joint longest; mandibles rather robust, dentate, not very prominent; last joint of maxillary palpi spiculiform.

Pronotum transverse, with rather straight fore-margin, posteriorly feebly rounded and more or less narrowed, sides smoothly marginated, sometimes finely sculptured, dorsal plane more or less distinctly tri-sulcate, and together with head and elytra most often longitudinally rugose or lon-

gitudinally aciculated. Scutellum is small and is placed half in front of elytral base; elytra most often longer than pronotum, with fine or obliterated suture-stripes and angulose suture-corners, posteriorly evenly truncated. Abdomen of equal breadth, sparsely haired, robustly margined, its first four free dorsal joints transversally grooved and flattish arcuately depressed at base, so that at each side a small triangular plane is formed between the groove and posterior margin of preceding joint (Fig. 160), a peculiarity, which inter alia separates Oxytelus from Platystethus, Haploderus and other closely allied genera, but also is found in the otherwise more remotely allied genus Siagonium Kirby with 2 Middle-European species. The middle-coxae are rather broadly separated; legs rather short, the anterior tibiae at tip as a rule distinctly incised and together with the middle ones spiniferous at outer margin, all tarsi 3-jointed, the claw-joint most often longer than the other two joints together. - In the ♂ the head is as a rule broader and thicker than in the ♀, and various sex-characters are in most of the species found on the next-last ventral abdominal joint of the ♂.

The species live in manure, at rotting fungi and plant waste, under carrion and on moist ground under leaves. About 12 species are heretofore found in Denmark, which besides several others occur distributed in Middle and North Europe.

Key to Subgenera and species.

1. Sides of pronotum not margined, but distinctly serrate: 1. Subgenus
Oxytelus s. str. Thoms. 2.

- Sides of pronotum finely margined, but not or only feebly serrate...4.
- 2. Clypeus dull, densely and distinctly shagreened. L. 4.5-5 mm.....
.....1. O. rugosus Fbr.
- Clypeus glistening, not or only feebly shagreened.....3.
- 3. Elytra light brownish-red, darker at scutellum. Neck glistening, punctated and not longitudinally aciculated. L. 4-4.5 mm.....
..... 2. O. insecatus Gravh.
- Elytra pitchy-red. Neck dull, longitudinally aciculated and not punctated. L. 4-4.5 mm..... 3. O. elegans Mein.

- 4. First joint of antennae constricted at middle: 2. Subgenus Caccoporus Thoms.....5.
- First joint of antennae gradually thickened distally.....6.
- 5. Eyes rather small, in the ♀ a little longer, in the ♂ shorter than the temples, finely faceted (Tanykraerus Thoms.). L. 4-4.5 mm.
..... 4. O. laqueatus Marsh.
- Eyes large, in the ♀ much longer than the very short temples, in the ♂ somewhat smaller, coarsely faceted (Caccoporus Thoms.). L. 4-4.5 mm..... 5. O. piceus L.
- 6. Eyes very large and temples in both sexes almost vanished. Dorsal plane of elytra by a sculptured line separated from side plane:
3. Subg. Epomotylus Thoms.- L. 4-5 mm..... 6. O. sculptus Gravh.
- Eyes small or rather small and temples well developed. Elytra without sculptured line on sides: 4. Subg. Anotylus Thoms.....7.

7. Body more or less glistening, sometimes with subdued lustre8.
- Body or at least the thorax entirely dull.....12.
8. The punctures of pronotum separated and mostly round, only here and there confluent in longitudinal rugae; elytra somewhat longitudinal-rugosely punctated.....9.
- Pronotum all over longitudinal-rugosely punctated; elytra densely and distinctly longitudinally aciculated..... 10.
9. Thorax naked, strongly glistening. Antennae black with yellowish-red base. L. 3.5-4 mm..... 7. O. fulvipes Er.
- Thorax, at least the elytra, haired, less glistening. Antennae brownish-red. L. 3-3.5 mm..... 8. O. Perrisi Fauv.
10. Body narrower and small. Forehead anteriorly impressed. 2.5 mm.....
-11. O. nitidulus Gravh.
- Body much broader and larger. Forehead anteriorly only feebly or not at all impressed.....11.
11. Head with scattered punctation, not longitudinally aciculated, as well as pronotum and elytra strongly glistening. L. 3.5-4 mm...
- 9. O. inustus Gravh.
- Head, especially posteriorly, with dense and fine longitudinal-aciculate punctation, together with pronotum and elytra subdued-lustrous. L. 3.5-4.5 mm.....10. O. sculpturatus Gravh.
12. Sides of head inside eyes with a very fine ridge; pronotum densely longitudinal-aciculated with here and there noticeable punctures. L: 3. mm.....12. O. complanatus Er.

- Sides of head inside eyes without ridge; pronotum especially densely longitudinal-aciculated, without noticeable punctures.....13.
- 13. Fore-tibiae without incision at tip. Legs yellow with darker femora.
L. 2-2.5 mm.....13. O. tetracarinatus Bl.
- Fore-tibiae at outer margin with an incision at tip. Legs brownish-black with reddish knee and tarsi. L. 1.7-2 mm.....
.....14. O. Fairmairi Pand.

(also O. hamatus Fairm. O. Sauloyi Pand. and O. pumilus Br.)

1. Subgenus Oxytelus s. str. Thoms.

1. O. rugosus Fabr.

(Fabr. Syst. Ent. 267; Erichs. Käf. Mk. Br. I, 588; Gen. Spec. Staph. 786; Kraatz Ins. D. II, 850; Thoms. Skand. Col. III, 126; Muls. et Rey Brévip. 1879, 47; Ganglb. Käf. M. II, 636).

Especially recognized by the not margined, but serrated sides of pronotum, and by the densely shagreened, dull clypeus.

Black; thorax rather glistening, abdomen almost dull; legs pitch-brown with lighter tarsi or entirely brownish-red. Not infrequently the elytra are brownish red and pronotum is then sometimes darkly brown, antennae brown, their base, maxillary palpi and legs yellowish-red (O. pulcher Grach.).

Body of rather equal breadth and somewhat flat; the head in the ♂ as broad as pronotum, in the ♀ (Fig. 160) narrower than same, in both flatly impressed anteriorly, ----- (Page 556) ----- clypeus very densely shagreened and dull, forehead otherwise at middle with rather simple punctation, sides with robust, longitudinal rugose punctation, neck very fine-

ly longitudinally aciculated and dull, antennae feebly thickened distally, their second and third joints somewhat elongate, and the third longest. Pronotum is anteriorly about as broad as elytra, $1\frac{1}{2}$ times as broad as long, roundedly narrowing posteriorly, with distinctly serrated, not margined sides, feebly convex, with rather robust, and especially on sides dense longitudinal-rugose punctation, with a flat impression along each side, and three cuneiform longitudinal grooves at middle, of which the middle one tapers backwardly, the others forwardly. Elytra are longer than pronotum, with dense and most often rather robust longitudinal-rugose punctation; abdomen extremely finely shagreened, and with a few very fine punctures. L. 4.5-5 mm.

In the ♂ the head is larger than in the ♀ and its temples more plump. The ventral fifth, rarely also the fourth, abdominal joint at middle of posterior margin with a short, projecting tooth (Fig. 161); posterior margin of the sixth joint is at middle slightly thickened and bi-emarginated and most often with a tiny tooth between the emarginations; the seventh joint at middle angularly tapering, and on each side of angular middle-part deeply emarginate.

Fig. 160. Oxytelus rugosus Fabr.

Fig. 161. Last four ventral abdominal joints in Oxytelus rugosus Fabr. ♂.

Distributed in Europe, North Asia and North America; in this country very common everywhere on semi-moist ground. The color-aberration with brownish red elytra etc. is rather rare; it occurs together with the typical form.

2. O. insecatus Gravh.

(Gravh. Mon. 189; Erichs. Käf. Mk. Br. I, 589; Gen. Spec. Staph. 787; Kraatz Ins. D. II, 852; Thoms. Skand. Col. III, 127; Muls. et Rey Brévip. 1879, 51; Ganglb. Käf. M. II, 637).

Somewhat narrower and more slender than rugosus, of which the red-winged aberration it resembles; within the subgenera mainly recognized by sculpture of the head and by short elytra.

Black, glistening; elytra light brownish-red or yellowish-red, around scutellum pitchy-brown; pronotum often brownish-red; antennae pitch-brown, their second, third and fourth joints most often reddish; maxillary palpi and legs reddish-yellow.

The head in the ♂ fully as broad as pronotum, in the ♀ distinctly narrower than same, more convex than in rugosus, anteriorly not impressed, nor shagreened or dull, -----(Page 557)----- but rather strongly glistening, at middle and the clypeus simply and rather finely punctated, the sides longitudinally aciculated-punctated, the vertex most often with a short middle-groove, the neck punctated, not longitudinally aciculated, glistening, antennae rather short and robust, their second and third joints equally short; pronotum principally as in rugosus, in the ♀ however distinctly narrower than elytra; these are short, not longer than pronotum, most often rather densely longitudinally-rugose punctated; abdomen very densely and finely shagreened, and with isolated, very feeble scabrous punctation, rather sparsely haired. L. 4-4.5 mm.

In the ♂ the head is larger than in the ♀, with plump temples. The sixth ventral abdominal joint at middle of base with a short carina, and

back of this, immediate on posterior margin two very small granules, placed close together. The seventh ventral joint is formed like that of rugosus.

Distributed throughout the greater part of Europe; everywhere, also in this country, rare and local. Here and there in Sjaelland, Møen and Falster, mostly on high ground under stones; at Odense it was taken from alluvium.

3. O. elegans Mein.

(Meinert Entom. Medd. II. B., 1889-90, 257. - ? Eppelsheimi Bethe Stett. Ent. Zeit. 1867, 308. - ?? rugifrons Hochh. Bull. Mosc. 1849, 189; Ganglb. Käf. M. II, 637).

From rugifrons, which it very much resembles, it is separated principally by darker, more dully glistening elytra, dull shagreened neck, and by difference in the sex-characters of the ♂.

Pale red with blackish head, antennae at middle darker; legs and tip of abdomen vivid yellow.

The head in both sexes narrower than pronotum, forehead at middle feebly convex, with fine, scattered punctation, rather smooth, posteriorly very short-grooved, the sides with a distinct longitudinal impression; pronotum almost cordate, with distinctly round-serrated sides, coarsely punctated, indistinctly tri-grooved and with an impression along the sides; elytra broader than long, and at the suture shorter than pronotum, rugose punctation, posteriorly distinctly smoother. L. 4 mm.

In the ♂ the fifth ventral abdominal joint at middle of posterior margin armed with a very small boss; the sixth joint at middle with a longitudinal impression, and at middle of posterior margin two very small bosses, the seventh with a deep double incision. (accd. to F. Meinert).

Heretofore found only in Falster at Kbhaven, Pavnstrup meadow and in Pedsle forest (April and June 1874, Koch).

O. elegans Mein. is not very different from Appelsheimi Bethe, with which it in several respects, mainly in the sex-characters of ♂ fully corresponds. As however other characters, namely the form of pronotum seems considerably deviating, Dr. Meinert considers it right to maintain elegans as a closely allied, yet different species.

2. Subgenus Caccoporus Thoms.

(+ Tanyocraerus Thoms.).

4. O. laqueatus Marsh.

(Marsh. Ent. Brit. 513; Janglb. Käf. M. II, 636. - luteipennis Brichs. Käf. Mk. Br. I, 593; Gen. Spec. Staph. 792; Kraatz Ins. D. II, 854; Thoms. Skand. Col. III, 129; Muls. et Rey Brévip. 1879, 65).

Identified by the antennal first joint being constricted at middle, by finely faceted, and in proportion to piceus distinctly smaller eyes, also by the sex-characters of the ♂.

Black, glistening; elytra yellow or brownish yellow with darker suture; maxillary palpi, base of antennae, and the legs reddish yellow.

The body is rather broad and flat; the head in the ♀ narrower than pronotum, in the ♂ at least as broad as this, and with plump temples, in both, but especially in the ♂, rather finely and not densely punctated, forehead anteriorly impressed, with elevated fore-margin, vertex with three more or less distinct and short longitudinal grooves, and in the ♀ posteriorly deeply transversally grooved, the eyes finely faceted, in the ♀ as long as the

temples, in the ♂ shorter than these, antennae short and robust, their first joint rather elongated, at middle or back of tip flatly constricted, the second and third joint of equal length; pronotum twice as broad as long, hardly as broad as elytra, posteriorly slightly narrowing, with rounded, smooth-margined sides and suggested, obtuse hind-corners, flatly convex, rather robust, at middle isolated, on sides more densely punctated, along sides flatly impressed, and with three longitudinal grooves at middle, of which the side-grooves above and beneath are out-curved. Elytra are a little longer than pronotum, together broader than long, their dorsal plane with rather dense and robust longitudinal-rugose punctation and with a feeble longitudinal groove back of the humerus, the deflexed part of the sides almost smooth; abdomen especially finely shagreened. L. 4 mm.

In the ♂ the sixth ventral abdominal joint at middle of posterior margin (Fig 162) with a small, smooth, feebly emarginate impression, of which the hind corners protrude like two small, acute triangular teeth; the bisinuate posterior margin of the seventh joint is at middle narrowly produced, and the produced part middle-grooved, at tip biparted.

In manure, at rotting plants, in alluvium and the like; distributed in Europe, North Asia and North America; not common in Denmark.

5. O. piceus Linn.

(Linne Syst. Nat. I, 2, 686; Erichs. Käf. Mk. Br. I, 590; Gen. Spec. Spaph. 788; Kraatz Ins. D. II, 853; Thoms. Skand. Col. III, 128; Muls. et Fey Brévip. 1879, 60; Ganglb. Käf. M. II, 639).

In relation to laqueatus, to which it in its entire appearance is close-

ly allied, and of which the form of first joint of the antennae closely resembles, it is recognized by very large, coarsely faceted eyes and by the sex-characters of the ♂.

Black, glistening; elytra brownish-yellow or yellow with dark suture; antennae brownish, their base, maxillary palpi and legs reddish yellow.

The head in the ♀ is narrower than pronotum, triangular in form and almost without temples, in the ♂ as broad as pronotum, with well developed temples, forehead in both sexes flatly impressed, with elevated fore-margin, very finely shagreened and with simple punctation, posteriorly slightly convex, with rather fine and scattered punctation, most often distinctly middle-grooved, without side-grooves, but back of the vertex deeply neck-formed constricted, the eyes coarsely faceted, in the ♀ so large, that they almost fill the sides of the head entirely, in the ♂ somewhat smaller, but however nearly twice as long as the temples, antennae longer and more slender than in the preceding species, their first joint back of tip flatly constricted, the middle- and next-last (6-10) joints of equal breadth, not strongly transverse; form and sculpture of pronotum and elytra principally same as in laqueatus, the latter however somewhat more densely longitudinal-rugose punctated; abdomen finely shagreened and with a row of very small, granule-punctures along posterior margins of the joints. L. 4-4,5 mm.

In the ♂ posterior margin of sixth ventral abdominal joint (Fig. 163) at middle with a rather broad dilation, which at tip is very feebly emar-



gined. The seventh joint is by two deep, narrow incisions divided into three parts, of which the side-parts are tapering and a little longer than the obtuse middle-part, which at middle has a feeble boss or carina.

In manure and under rotting plants, also in alluvium; distributed in Europe and North Asia; everywhere in this country and not rare.

Fig. 162. Last three ventral abdominal joints in Oxytelus laqueatus Marsh. ♂.

Fig. 163. Last three ventral abdominal joints in Oxytelus piceus Linn. ♂.

3. Subgenus Epomotylus Thoms.

6. O. sculptus Gravh.

(Gravh. Mon. 191; Erichs. Käf. Mk. Br. I, 591; Gen. Spec. Staph. 788; Kraatz Ins. D. II, 855; Thoms. Skand. Col. III, 128; Muls. et Rey Erévip. 1879, 57; Ganglb. Käf. M. II, 639).

From piceus, of which the ♀ in appearance, and especially in regard to its large, coarsely faceted eyes it is very much alike, it is easily separated inter alia by longer antennae, and by the form of first joint of these, from all the following by the size of the eyes, extremely short, or indistinct temples, and by a fine, ingraved line at the side-margin of elytra.

Pitch-black, glistening; pronotum at middle often reddish-brown; elytra brownish-red or brownish-yellow with dark suture, sometimes brown; base of antennae, and the mouth-parts brownish reddish-yellow; legs yellow.

The head in both sexes narrower than pronotum, with very large eyes and almost without temples, triangle-shaped, anteriorly between bosses

flatly impressed and very finely dully shagreened, vertex rather convex, with rather fine and dense punctation, briefly middle-grooved, posteriorly strongly neck-shaped constricted, antennae rather long and slender, their first joint normal, ----- (Page 560)----- back of tip not constricted, the middle-and next-last ones (5-10) of equal breadth, and all a little longer than broad. Pronotum is a little narrower than elytra, $1\frac{1}{2}$ times as broad as long, with finely margined, anteriorly rounded sides, posteriorly slightly narrowing with obtuse hind-corners, dorsum flatly convex, with a broad, flat impression on each side and three rather deep, mutual almost parallel longitudinal grooves at middle, the intervals with simple punctation and rather glistening, the dorsum elsewhere with rather fine and dense longitudinal-rugose punctation. Elytra are longer than pronotum, with dense and rather fine longitudinal-rugose punctation, and with an ingraved, finely margined line along the sides; abdomen extremely finely shagreened, scarcely punctated. L. 4-5 mm.

In the ♂ the sixth ventral abdominal joint (Fig. 164) is not emarginated, but the seventh by two narrow, deep incisions divided into three parts, the middle-part spatulate, with a short carina or boss at middle, posteriorly feebly emarginated and as long as the tapering side-parts.

Fig. 164. Last three ventral abdominal joints in Oxytelus sculptus Gravh. ♂.

Distributed in all continents, and not rare in this country; at manure, in compost and under rotting plants. - The larva is found in manure and reared by Cand. W. Schlick (9. 1894).

4. Subgenus Anotylus Thoms.

7. O. fulvipes Er.

(Erichs. Käf. Mk. Br. I, 590; Gen. Spec. Staph. 787; Kraatz Ins. D. II, 852; Thoms. Skand. Col. IX, 293; Muls. et Rey Brévip. 1879, 54; Ganglb. Käf. M. II, 638).

From rugosus, which it somewhat resembles, it is easily separated by the stronger lustre of the body, the form, grooves and margined sides of pronotum, also by the difference in sex-characters in the ♂; as a rule it is also somewhat shorter.

Deeply black, strongly glistening; elytra sometimes brownish; base of antennae, maxillary palpi, and legs reddish or brownish yellow.

The head in the ♀ is a little narrower than pronotum, in the ♂ as broad as pronotum, robustly and rather densely punctated, with almost smooth, extremely finely shagreened clypeus, the eyes as long as temples, antennae feebly thickened distally; pronotum anteriorly almost as broad as elytra, twice as broad as long, with anteriorly rounded sides, posteriorly narrowing and with obtuse, distinct hind-corners, side-margins finely rounded and also very feebly serrated, dorsum at middle slightly convex, the sides broadly impressed and coarse dense punctation, at middle with rather simple punctation, and with three longitudinal grooves, of which each of the outer ones anteriorly turn somewhat outwardly; elytra somewhat longer than pronotum, with rather robust and dense, somewhat longitudinal-rugose punctation; abdomen very feebly shagreened, scarcely punctated; first joint of hind tarsi longer than in rugosus. L. 3.5-4 mm.

In the ♂ the posterior margin of seventh ventral abdominal joint at middle with a lobiform dilation, which at tip is transversally truncated or very feebly emarginate.

On damp forest ground and at water holes under leaves, but very local and rare (Nordfalster, Odense, Silkeborg).

8. O. Perrisi Fauv.

(Fauv. Ann. 1861, 34; Muls. et Rey Brévip. 1879, 79; Ganglb. Käf. M. II, 640. - maritimus Thoms. Skand. Col. III, 131).

Somewhat larger than nitidulus the punctation of pronotum less longitudinally-rugose than in same, furthermore easily identified by the color of the antennae.

Black, glistening; the thorax finely and very sparsely, abdomen somewhat more coarsely and densely haired; pronotum sometimes brownish, and elytra most often brownish-red; antennae, mouth, and legs brownish-red or reddish-yellow.

Body rather narrow and of equal breadth; the head in the ♀ a little narrower than pronotum, in the ♂ as broad as same, and with plump temples, in both with rather scattered and fine punctation, anteriorly between bosses flat and with two broad, flat, feebly shagreened longitudinal impressions, and almost smooth clypeus, the vertex sometimes with a very short middle-groove, eyes small, antennae rather short and robust; pronotum nearly as broad as elytra, 1½ times as broad as long, posteriorly feebly narrowing, with slightly rounded, very finely edge-margined sides, feebly convex, sides with flat and feeble impression, and somewhat longitudinal-rugose punctation, at middle with rather scattered punctation, feebly tri-

grooved with slightly outcurved side-grooves; elytra short, only a little longer than pronotum, rather finely longitudinal aciculated or feeble longitudinal-rugose punctation; abdomen feebly shagreened, with scattered and especially fine punctation. L. 3-3.5 mm.

In the ♂ the sixth ventral abdominal joint at middle of posterior margin with a short and slight impression, the impression feebly emarginated and its hind corners prominently short dentiform; the seventh ventral joint is posteriorly deep, at bottom with two outcurves, and the short part between slightly rounded or obtuse angular.

A strand-species, distributed along the coasts of Middle and North Europe; rare in this country (Skagen, Aalborg, Blokhus; Tisvilde, Hornbaek; Bøtø; Rønne); under seaweed and at animal fragments.

9. O. inustus Gravh.

(Gravh. Mon. 188; Erichs. Käf. Mk. Br. I, 593; Gen. Spec. Staph. 791; Kraatz Ins. D. II, 856; Muls. et Rey Brévip. 1879, 69; Ranglb. Käf. M. II, 640).

Closely allied both to Ferrisi and sculpturatus. from the former it is separated inter alia by entirely black antennae, from the latter by the sculpture and stronger lustre of thorax, also by the sex-characters of the ♂.

Black, strongly glistening; elytra often reddish-brown; antennae and maxillary palpi entirely black; legs brownish yellow, most often with pitch-brown femora.

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The head of the ♀ narrower than pronotum and without impressions, in the ♂ at least as broad as pronotum, and anteriorly feebly impressed, in both anteriorly smooth, posteriorly with very fine and scattered punctation, not

marginated inside inner rim of the eye, antennae short, and robustly thickened distally; pronotum in the ♀ narrower than elytra, in the ♂ as broad as these, and nearly twice as broad as long, broader than in the ♀, in both feebly narrowing posteriorly, feebly convex, on sides flatly and broadly impressed, and densely and rather robustly longitudinal-rugose, at middle with isolated, feebly longitudinal-rugose punctation and with three grooved: one middle-groove and two feeble, slightly outwardly curved side-grooves, their intervals flat. Elytra a little longer than pronotum, densely and rather finely longitudinal-aciculated- or longitudinal-rugose-punctated; abdomen very finely shagreened, with scattered and very fine punctation, sparsely haired. L. 3-4 mm.

In the ♂ the sixth ventral abdominal joint at middle slightly impressed and posterior corners of impression prominent short dentiform. Posterior margin of seventh joint with two rather deep and broad curves, separated by a short, rounded interval.

Distributed in Middle Europe, but rarely in the northern part; in Denmark it is heretofore, as far as known, found only in Aersø (2 specimens, ♀♀, Skolebestyrer N. P. Jørgensen).

10. O. sculpturatus Gravh.

(Gravh. Mon. 187; Erichs. Käf. Mk. Br. I, 592; Gen. Spec. Staph. 790; Kraatz Ins. D. II, 857; Thoms. Skand. Col. III, 131; Muls. et Rey Brévip. 1879, 72; Ganglb. Käf. M. II, 641).

Identified by the size, and by the sculpture and rather feeble lustre of the thorax, also by sex-characters of the ♂.

Black, feeble somewhat silky lustre; elytra often darkly brownish;

antennae and mouth-parts black; legs reddish or brownish yellow, most often with pitch-brown femora.

The body (Fig. 165) is rather broad; the head in the ♀ narrower, in the ♂ ordinarily a little broader than pronotum and with more plump temples, in both finely punctated, and posteriorly on sides longitudinal-rugose, the vertex with short middle-groove, anteriorly between the bosses flatly impressed, very finely and feebly shagreened, in the ♀ dully shining, sides of forehead in the ♀ inside the eye with a carina-formed margin, eyes rather small, antennae short, rather robustly thickened distally, their next-last joints rather strongly transverse; pronotum, especially in the ♀, narrower than elytra, about twice as broad as long, especially in the ♂, posteriorly hardly narrowing, with slightly rounded sides and rounded off hind-corners, flatly convex, dense and rather fine longitudinal-rugose- and longitudinal-aciculated punctation, sides with rather deep and broad impression and with very finely margined side-edges, at middle with three longitudinal grooves, of which the

middle groove is deepest, broadest anteriorly, side-grooves anteriorly slightly outcurved; elytra longer than pronotum, with very dense and rather fine longitudinal-rugose- and longitudinal-aciculated-punctation; abdomen very finely shagreened, and particularly finely, rather densely punctated, finely haired. L. 3.5-4.5 mm.

In the ♂ the sixth ventral abdominal joint (Fig. 166) posteriorly with a rather deep, semicircular, smooth impression with two small,

closely set, often light brown bosses at posterior margin. The seventh joint is broad and deep, at bottom with two feeble sinuations.

Fig. 165. Oxytelus sculpturatus Gravh. ♂.

Fig. 166. Last ventral abdominal joint in Oxytelus sculpturatus Gravh.

Distributed in Europe and North Asia; in this country not rare in manure, under rotting plants, in compost, at fungi and under carion.

11. O. nitidulus Gravh.

(Gravh. Micr. 107; Erichs. Käf. Mk. Br. I, 594; Gen. Spec. Staph. 795; Kraatz Ins. D. II, 860; Thoms. Skand. Col. III, 132; Muls. et Rey Brévip. 1879, 76; Ganglb. Käf. M. II, 642).

A small, narrow, of equal breadth, and glistening species, easily separated from the closest allied preceding species by lesser size, from the following by the lustre of the body.

Black, glistening; elytra brownish-red; legs brownish-yellow, often with darker femora.

The head of ♀ narrower than pronotum, of the ♂ about as broad as pronotum, sides of both longitudinal-rugose, at middle with isolated and rather fine punctation, most often with short middle-groove, anteriorly between the bosses impressed and almost smooth, the eyes rather small, antennae rather short and robust; pronotum nearly as broad as elytra, fully $1\frac{1}{2}$ times as broad as long, feebly rounded narrowing posteriorly, slightly convex, rather robust and dense longitudinal-rugose punctation, with a broad impression on sides, and at middle a rather sharp, anteriorly a little broader middle-groove and two feebler side-grooves; elytra longer than pronotum, dense and rather robust longitu-

dinal-rugose punctation; abdomen indistinctly shagreened, very finely and rather densely punctated, sparsely haired. L. 2.5 mm.

In the ♂ the seventh ventral abdominal joint is broadly incurved.

Distributed in Europe, North Asia and North America; in Denmark it is rather common at manure, under carrion and rotten plants, under leaves at miry water holes, in alluvium, on the strand under seaweed and like places.

12. O. complanatus Er.

(Erichs. Käf. Mk. Br. I, 595; Gen. Spec. Staph. 795; Kraatz Ins. D. II, 858; Thoms. Skand. Col. III, 132; Muls. et Rey Brévip. 1879, 85; Ganglb. Käf. M. II, 642. - depressus Gyllh. Ins. Suec. II, 457).

Among our few species with dull, aciculated thorax this one is the largest, and in relation to the following by this alone easily recognized.

Black; the thorax dull with feeble silky lustre, but the bosses on
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fore-margin of the head, a small spot on the vertex, intervals between grooves of pronotum, and abdomen somewhat glistening; elytra at middle often brownish; legs brownish yellow, sometimes with darker femora.

The body rather flat and broad; head, pronotum and elytra densely and finely longitudinal aciculated without distinctly separated punctures; the head of the ♀ narrower than pronotum, in the ♂ as broad as pronotum, anteriorly flat, the vertex most often with short middle-groove, sides inside the eyes very finely margined, eyes rather small, antennae short, rather strongly thickened distally; pronotum a little narrower than elytra, $1\frac{1}{2}$ times as broad as long, feebly narrowing pos-

teriorly, sides broadly impressed and at middle tri-grooved, the middle-groove rather sharp, side-grooves flat, slightly outcurved. Elytra longer than pronotum; abdomen rather densely and very finely punctated.

L. 3-3.5 mm.

In the ♂ the sixth ventral abdominal joint posteriorly at middle with a transversal impression, the posterior margin back of this is thickened, and has at middle two adjacent, small, acute bosses, on each side of these it is feebly emarginated. The seventh joint is broad and rather deep, at bottom with two feeble outcurves.

Distributed in North and Middle Europe, but is not frequent in this country; at manure, excrements, in compost, at hothouse boxes, also in cellars and out-houses at waste, on the strand under seaweed etc.

13. O. tetracarinatus Block.

(Block Verz. Ins. Plauensch. 116; Ganglb. Käf. M. II, 644. -depressus Gravh. Micr. 103; Erichs. Käf. Mk. Br. I, 595; Gen. Spec. Staph. 796; Kraatz Ins. D. II, 862; Thoms. Skand. Col. III, 132; Muls, et Rey Brévip. 1879, 104).

A small, narrow, flat species of equal breadth, easily identified by the entirely dull sculpture of the thorax, and by simple fore-tibiae.

Black; thorax entirely dull, abdomen glistening; legs brownish yellow with darker femora.

The head of ♀ is a little narrower than pronotum, of the ♂ as broad as same, in both rather flat and without distinct grooves, head, pronotum, and elytra especially finely and densely longitudinal-aciculated and shagreened and therefore dull, the eyes rather small, somewhat prominent, antennae short, strongly thickened distally; pronotum a little

narrower than elytra, fully $1\frac{1}{2}$ times as broad as long, posteriorly slightly narrowing and with rounded-off hind corners, flatly convex, the reticulation without punctures, sides flatly impressed, and at middle with three flat grooves, of which the middle-groove is a little broadened anteriorly; elytra a little longer than pronotum, the aciculated surface with especially fine and rather scattered punctation; abdomen very finely and rather densely punctated; fore-tibiae at tip without the usual incision in Oxytelin species. L. 2-2.5 mm.

In the ♂ the sixth ventral abdominal joint is without sex-characters, but the posterior margin of seventh joint is twice outcurved,

at middle roundly dilated and somewhat thickened, before the dilation slightly transversely depressed and more densely punctated (Fig. 167).

Fig. 167. Last three ventral abdominal joints in Oxytelus tetracarinatus Block. ♂.

Distributed everywhere in Europe, North Asia and North America, and in this country common at rotting fragments of plants and animals.

14. O. Fairmairei Pand.

(Pand. Cat. Gren. 1867, 172; Muls. et Rey Brévip. 1879, 97; Ganglb. Käf. M. II, 644).

Much like tetracarinatus, from which it (accd. to Ganglb.) mainly is separated in, that the legs are brownish-black with reddish knees and tarsi, that the fore-tibiae bear the usual incision at tip, that abdomen is more strongly punctated, and that the sixth ventral abdominal joint of the ♂ has two small, anteriorly and-posteriorly abbreviated longitu-

dinal carinae, with smooth interval at middle; the seventh is broadly and rather deeply roundly produced. L. 1.7-2 mm.

Distributed in Middle Europe. Two σ σ , found at Odense (N. P. Jørgensen), are probably this species.

Very closely allied to tetracarinatus and Fairmairei, and of about same size is hamatus Fairm. (L. 1.2-1.5 mm) and Saulcyi Pand. (L. 1.7-2 mm). Both with dull, longitudinal-aciculated-shagreened head, pronotum and elytra, and fore-tibiae in both with the usual incision at tip. But in the σ of hamatus the sixth ventral abdominal joint has at middle posteriorly a long, at the tip curved spine; in the σ of Saulcyi the same joint at middle posteriorly with a short carina, and posterior margin back of this dilated forming a short, broad transversal plate (anglb.). - Both are found in North Germany, and may possibly also be found in this country. A little larger species (L. 2-2.5 mm), C. pumilus Dr., likewise much like tetracarinatus, but in which the sixth ventral abdominal joint in the σ is armed with three spines, is found distributed in Middle Europe.

94. Genus Haploderus Speph.

(Steph. Ill. Brit. V, 1832, 321; Kraatz Ins. D. II, 863; Thoms. Skand. Col. III, 133 (Aploderus); Muls. et Re, Erévip. 1879, 219 (Aploderus); Ganglb. Käf. M. II, 645. - Phloeonaeus Erichs. Käf. Mk. Br. I, 597; Gen. Spec. Staph. 799).

From the preceding genus, Oxytelus, to which Haploderus in regard to form of body, as well as in the structure of mouth-parts, antennae and tarsi is very closely allied, it deviates namely only in that the middle-coxae are almost contiguous, and that the sculpture of thorax is different; it is especially noticeable that pronotum is without mid-

dle-groove, but at the middle with two arcuate longitudinal impressions (Fig. 168), separated by a narrow, smooth, somewhat convex interval. Elytra and abdomen are distinctly and rather densely, head and pronotum only simply haired. - From the likewise closely allied genus Trogophloeus it differs inter alia in, that fore- and middle-tibiae in outer margin are more or less spiniferous.

Only 2 European species are known. They occur widely distributed in Middle Europe and are also found in Denmark, partly in manure and at rotting plants, partly under damp foliage.

Key to Species.

1. Fore-tibiae with an incision at tip. Vertex either indistinctly or only very finely and shortly middle-grooved. L. 3.5-4.5 mm.
..... 1. H. caelatus Gravh.
- Fore-tibiae at tip without incision. Vertex sharply middle-grooved.
L. 3.5-4.5 mm..... 2. H. caesus Er.

1. H. caelatus Gravh.

(Gravh. Micr. 103; Erichs. Käf. Mk. Er. I, 597; Gen. Spec. Staph. 800; Kraatz Ins. D. II, 865; Thoms. Skand. Col. III, 133; Muls. et Pey Brévip. 1879, 221; Ganglb. Käf. M. II, 646).

Of rather equal breadth, feebly convex, of same length as, but hardly as broad as Oxytelus piceus, recognizable especially by the two impressions of pronotum, and in relation to the following species by the, at tip emarginated fore-tibiae.

Black, glistening; elytra and abdomen rather densely, head and pronotum only simply haired; elytra brownish-red, at base and at suture most often brownish-black; antennae pitch-black, their first joint, the mouth, and sometimes also abdominal tip brownish-red; legs reddish-yellow.

The head of the ♀ (Fig. 168) is narrower than pronotum, of the ♂ as broad and large as pronotum, and with plump temples, in both, anteriorly on each side inside the marginal bosses slightly impressed, posteriorly the sides with rather coarse and isolated, flat punctation, entire surface aciculated-shagreened, the vertex most often indistinctly or very finely and shortly middle-grooved, the temples in the ♀ as long as the eyes, in the ♂ longer than these, the antennae about as long as head and pronotum together, and not strongly thickened distally, their first joint longest and especially in the ♂ most robust, the next-last joints not strongly transverse. Pronotum is not fully as broad as elytra, almost twice as broad as long, with anteriorly rounded sides, posteriorly narrowing with rounded-off hind-corners and finely margined sides and posterior margin, slightly convex, the sides with coarse and isolated punctation, all over finely aciculated-shagreened, and the dorsum with two arcuate impressions, separated by a impunctated, smooth, somewhat convex interval; elytra longer than pronotum, with rather dense and robust punctation, and with a flat sutural groove; abdomen with scattered and fine punctation, the surface densely shagreened; fore- and middle-tibiae at outer margin rather robustly spiniferous, and the former at tip shortly incised or emarginated. L. 3.5-4.5 mm.

In the ♂ the posterior margin of sixth ventral abdominal joint at middle somewhat roundly dilated, and the seventh posteriorly broadly emarginate.

Distributed in Europe and common everywhere in this country, at manure and rotting plants. - The larva is found in dry cow-manure (Rudern 26. 5. 1895) and reared by Jand. W. Schlick and Fr. L. Rosenberg.

2. H. caesus Br.

(Erichs. Käf. Mk. Br. I, 598; Gen Spec. Staph. 800; Kraatz Ins. D. II, 866; Muls. et Rey Brévip. 1879, 224; Ganglb. Käf. M. II, 647).

From caelatus, to which it is very similar, it is mainly separated by the following details:

As a rule it is somewhat more slender, with more distinct and longer hair vestiture, head and pronotum more glistening smooth, their punctation and grooves of pronotum deeper, vertex long and sharply middle-grooved, antennae somewhat slenderer, their next-last joints especially in the ♂ not transverse, fore-margin of elytra more abruptly declining, their punctation robust and dense; fore- and middle-tibiae at outer margin very finely spiniferous, the former at tip without incision. L. 3.5-4.5 mm.

In the ♂ the sixth ventral abdominal joint without sex-characters; the seventh posteriorly broadly emarginate.

Distributed in Middle Europe, but everywhere very rare; under leaves on damp forest ground. In this country heretofore only found singly in Fedmosen at Copenhagen, Riserup, Falster (Koch), Maribo (N. P. Jørgensen).

95. Genus Planeustomus Duval.

(Duval Gen. Col. d'Eur. 1857, 58; Thoms. Skand. Col. III, 142; Muls. et Rey Brévip. 1879, 227; Ganglb. Käf. M. II, 671. - Compsochilus Kraatz Ins. D. II, 1858, 895).

The body is narrow elongate, almost of equal breadth and slightly convex; head is proportionately large, porrect, feebly constricted behind and with a broad neck, across the most often large and convex eyes fully as broad as pronotum; antennae as long as head and pronotum together, feebly geniculate, their last five joints considerably thicker than the small middle joints; anterior margin of forehead closely in front of antennal base evenly truncated and abruptly restricted from the deeper situated clypeus; mandibles long and far protruding, at tip incurved; last joint of maxillary palpi tapering, longer than the second, and at base about as thick as this.

Pronotum is longer than broad, posteriorly feebly narrowing, with straight, very finely margined sides and posterior margin; elytra considerably longer than pronotum; abdomen anteriorly feebly narrowing; middle-coxae contiguous; legs short, fore- and middle-tibiae at outer ~~edges~~ spiniferous, the former at tip without incision, tarsi 3-jointed.

The species live on swampy, low ground, where they like the Blédus species dig burrows in the soil-surface. The beetles keep in hiding during

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ing daytime, but fly out a few hours before evening. In Denmark only 1 species is found, in South Europe a few others.

1. P. palpalis Er.

(Erichs. Käf. Mk. Br. I, 608; Gen. Spec. Staph. 818; Kraatz Ins. D.

II, 896; Thoms. Skand. Col. III, 142; Muls. et Rey Brévip. 1879, 232; Ganglb. Käf. M. II, 673).

A small, narrow and fine species, mainly identified by these characters and by the sculpture of the thorax.

Brownish-red or brownish-yellow with pitch-colored head, thorax and abdomen, somewhat glistening; elytra yellow, as well as abdomen with sparse, but rather long hair vestiture; abdominal base and tip often brownish; antennae toward tip pitchy brownish, the rest together with mouth and legs yellow.

Head and pronotum with distinctly shagreened surface, head as broad as pronotum, with scattered and proportionately coarse, but not deep punctation, eyes large, rather strongly convex, temples very short, mandibles far protruding, antennae rather slender, at middle thin, their first joint longest, rather robust, the third finer and shorter than the second, the fourth, fifth and sixth small, roundish, the following much more robust, and together forming a five-jointed, long club, in which the eighth joint is smallest. Pronotum is narrower than elytra, $1\frac{1}{2}$ times as long as anteriorly broad, posteriorly narrowing, with straight sides, flatly convex, punctated like the head, but the punctures at middle arranged in two rather regular rows, separated by an impunctated, rather broad interval, which posteriorly is more convex than anteriorly and at middle-line smooth. The elytra are almost $1\frac{1}{2}$ times as long as pronotum, with rather coarse, but not deep row-punctation, posteriorly with scattered punctation; abdomen with very fine, simple punctation, the surface very finely shagreened. L. 2.5 mm.

In the ♂ the posterior margin of sixth ventral abdominal joint at middle rounded, in the ♀ more tapering (Muls. et Rey).

Distributed in Middle Europe, also in southern Sweden (Thoms.).

In this country very rare; in earlier times found in Amager, and numerous at a water hole in Sorø Lillemark (Past. Fr. Jakobsen 23. 5. 1848); more recently a single specimen netted toward evening in Damhusmosen at Copenhagen (B. Rye, 8. 1909).

96. Genus Acrognathus Er.

(Erichs. Käf. Mk. Br. I, 607; Gen. Spec. Staph. 816; Kraatz Ins. D. II, 898; Thoms. Skand. Col. III, 141; Muls. et Rey Brévip. 1879, 235; Ganglb. Käf. M. II, 674).

Acrognathus (Fig. 169) is, inter alia, like Planeustomus characterized by the elongated, rather equally broad, slightly convex form of the body, clypeus sharply bounded toward anterior margin of forehead, far protruding mandibles, proportionately long last joint of maxillary palpi, large prominent eyes, proportionately long elytra, contiguous middle-coxae and spiniferous fore- and middle-tibiae; it is separated

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from Planeustomus in that the head is shorter, more strongly constricted behind, almost without temples, and somewhat narrower pronotum, that the antennae are less clavate, abdomen of more equal breadth, and more thickly margined, but especially in that the tarsi are 5-jointed; the claw-joint is fully as long as the four preceding joints together. -

In Erichson the species of the preceding genus are united with Acrognathus, but Planeustomus (Compsochilus) is later separated by Duval (and Kraatz).

Only 1 species is known, distributed in Europe. It lives like the species of preceding genus on damp, swampy ground, and flies about towards evening.

1. A. mandibularis Gyllh.

(Gyllh. Ins. Suec. IV, 468; Erichs. Käf. Mk. Br. I, 608; Gen. Spec. Staph. 817; Kraatz Ins. D. II, 900; Thoms. Skand. Col. III, 142; Muls. et Rey Brévip. 1879, 237; Ganglb. Käf.M. II, 675).

Elongate and rather narrow, easily recognized by the above cited genus characters.

Reddish-yellow or brownish-yellow, finely haired, feebly glistening; head pitch-brown; pronotum most often reddish-brown, sometimes darker.

The head (Fig. 169) is not fully as broad as pronotum, with scattered and not deep punctation, both distinctly shagreened, antennae rather long and robust, their third joint longer than the second, the middle ones oblong, the next-last four hardly broader than long, mandibles far protruding; pronotum anteriorly as broad as long, posteriorly gradually and feebly narrowing, with rather straight sides and almost rectangular hind corners, considerably narrower than elytra, flatly convex, with rather coarse and scattered, not deep punctation, and with an impunctate, slightly elevated, anteriorly and posteriorly abbreviated middle-line, which on each side before middle is bounded by a feeble impression. The elytra are $1\frac{1}{2}$ times as long as pronotum, with rather robust, isolated punctation, and with three feebly elevated, impunctate, posteriorly abbreviated longitudinal lines, the surface very densely, dully shagreened; abdomen very finely and densely shagreened; very fine and scattered punctation. L. 6-7 mm.

In the ♂ the second ventral abdominal joint with a granule at middle of posterior margin; posterior margin of sixth ventral joint in the ♂ is at middle rounded, in the ♀ angular.

Very rare and local on low meadow- and forest-ground: Objerggaard (7. 1861, Boye), Olstrup at Karise (7. 79, Lovendal); Falster. Also in Skaane (Thoms.).

Fig. 169. Acrognathus mandibularis Fyllh.

97. Genus Coprophilus Latr.

(Latr. Rept. An. IV, 1809, 439; Erichs. Käf. M. Br. I, 609; Gen. Spec. Staph. 818; Kraatz Ins. D. II, 893; Thoms. Skand. Col. III, 143; Muls. et Pey Brévip. 1879, 240; Ganglb. Käf. M. II, 676).

The body is rather elongate and of equal breadth, somewhat flatly depressed; the head porrect and not constricted behind (Fig. 170), with rather small, slightly protruding eyes and longer temples; clypeus not bounded toward forehead; antennae not geniculate, robust and rather long; mandibles rather short; maxillary palpi proportionately thick, their last joint longer than the next-last and as thick as this, tapering.

Pronotum is fully as broad as long, somewhat narrower and shorter than elytra; these finely grooved, their epipleura broad, and by a fine, sharp side-margin separated from the dorsum; abdomen equally broad, with rather thick side-margins; middle-coxae narrowly separated; legs rather short, fore-tibiae sparsely, middle-tibiae more densely spiniferous, tarsi 5-jointed, their claw-joint long, longer than the others together.

Is this 1 Middle and North European species, which mainly lives at rotting plants and manure.

1. C. striatulus Fabr.

(Fabr. Ent. Syst. I, 2, 525; Erichs. Käf. Mk. Br. I, 609; Gen. Spec. Staph. 816; Kraatz Ins. D. II, 894; Thoms. Skand. Col. III, 143; Muls. et Rey Brévip. 1879, 243; Ganglb. Käf. M. II, 677).

Identified by the above cited genus characters, and by the sculpture of thorax. In appearance somewhat like a large Oxytelus.

Brownish-black or darkly brown, glistening; the thorax naked, abdomen sparsely haired; antennae, maxillary palpi and the legs brownish-red.

The head (Fig. 170) is considerably narrower than pronotum, rather isolated and robustly punctated, with a transversal groove on the vertex and anteriorly on each side a robust impression inside the bosses, antennal third joint longer than the second, the next-last four somewhat more robust than the middle ones, yet hardly transverse; pronotum posteriorly slightly narrowing, with anteriorly slightly rounded, feebly roundly-serrate, sharp sides and rectangular hind-corners, flatly convex, punctated like the head and at middle with a deep, anteriorly and posteriorly abbreviated and narrowed furrow, and posteriorly at sides of this two oblique basal foveae; elytra $\frac{1}{3}$ longer than pronotum, each on the dorsal part with 5-6 robustly punctated, posteriorly abbreviated grooves with smooth intervals, -----(Page 571) ----- before posterior margins densely rugose-punctated; abdomen with rather fine, and especially anteriorly rather dense punctation, the surface densely shagreened. L. 6-7 mm. ---Fig. 170. Coprophilus striatulus Fabr. ---

In the ♂ the head is posteriorly somewhat thicker, and posterior margin of seventh ventral abdominal joint more rounded off than in the ♀.

Distributed, but rare; in compost, at manure-boxes and under rotting plants in gardens, in woods under leaves; often found crawling on walls of houses, especially in the autumn.

(Subdivision Trogophloeina Muls. et Rey.)

98. Genus Trogophloeus Mannh.

(Mannh. Brach. 49; Erichs. Käf. Mk. Br. I, 599; Gen. Spec. Staph. 801; Kraatz Ins. D. II, 866; Muls. et Rey Brévip. 1879, 255; Ganglb. Käf. M. II, 647. - Carpalimus Trogophloeus Taenosoma Thoms. Skand. Col. III, 133, 134, 136).

Body most often rather elongate and narrow, slightly flatly depressed or somewhat cylindrical, more rarely somewhat broad, finely gray-haired; the head porrect, posteriorly most often, more rarely not constricted, with rather large, round, somewhat protruding eyes and most often with distinctly developed temples; antennae very feebly or not geniculate, their last three joints somewhat larger than the middle ones; last joint of maxillary palpi very small, spiculiform.

Pronotum is more or less cordate, without middle-groove, but the dorsum ordinarily with two arcuate or several foveate impressions; scutellum is not visible; elytra posteriorly evenly truncated and in the suture-angle closed^{*}; abdomen most often of equal breadth, side-marginated; middle-coxae mutually close set; legs short, tibiae not spiniferous, tarsi 3-jointed with long claw-joint and very short inner joints. Considerable or conspicuous difference between the ♂ and ♀ does not occur.

The species live on damp friable ground, at the edges of waters under leaves and like places, where they root in the mould surface and around roots of plants. The name Trogophloeus, which denotes living under bark,

is therefore misleading. In Denmark 12 of the in Middle and North Europe distributed species are found, in the entire Europe about 30 species.

Key to Subgenera and Species.

1. Pronotum posteriorly with a deep arcuate transversal impression: 1.
Subgenus Carpalimus Thoms.- Body proportionately broad, with fine, prostrate hair-clothing. L. 3.5-4 mm...1. T. arcuatus Steph.
- Pronotum posteriorly without arcuate impression, but at middle as a rule with two longitudinal impressions, which often are divided into four flat foveae, sometimes almost obliterated or very feeble..... 2.
2. Antennal middle-joints (5-7) considerably longer than broad: 2. Subgenus Trogophloeus s. str. Thoms. 3.
- Antennal middle joints (5-7) at most as long as broad, most often distinctly transverse: 3. Subgenus Taenosoma Thoms..... 4.

(Page 572)

3. Sides of pronotum before middle strongly rounded, its fore-corners rather acutely prominent; elytra rather robustly punctated. L. 3-3.5 mm.....2. T. billineatus Steph.
- Sides of pronotum anteriorly less strongly rounded, fore-corners rounded off; elytra finely punctated. L. 2.7-3 mm.....
.....3. T. rivularis Motsch.
4. Antennal middle-joints (5-7) as long as broad..... 5.
- Antennal middle joints transverse..... 6.
5. Pronotum without distinct impressions, glistening, anteriorly as

- broad as broad as elytra. L. 2.7 mm..... 4. T. fuliginosus Gravh.
- Pronotum with distinct longitudinal impressions, very densely and finely punctated. L. 2-2.5 mm.....5. T. impressus Lac.
6. Antennae entirely black, rarely with brownish basal joint.....7.
- Antennae with brownish-yellow or reddish-yellow base or entirely yellow..... 9.
7. Head and pronotum distinctly, even though very finely punctated. L. 2-2,5 mm..... 6. T. corticinus Gravh.
- Head and pronotum densely shagreened, not punctated..... 8.
8. Elytra with proportionately coarse or robust punctation; impressions on pronotum distinct. L. 2 mm.....7. T. foveolatus Sahlb.
- Elytra finely punctated; impressions on pronotum feeble or indistinct. L. 1.5-2 mm.....8. T. halophilus Kiesw.
9. Elytra remarkably short, hardly longer than pronotum; this and the head entirely dull. L. 2.5 mm..... 9. T. elongatulus Er.
- Elytra about $1\frac{1}{2}$ times as long as pronotum.....10.
10. Eyes rather large; temples shorter than the eyes. Pronotum $1\frac{1}{4}$ times as broad as long. L. 1.5 mm..... 10. T. pusillus Gravh.
- Eyes rather large; temples at least as long as eyes. Pronotum nearly as long as broad..... 11.
11. Antennae pitch-black with brownish or reddish-yellow base. L. 1.3-1.5 mm..... 11. T. gracilis Mannh.
- Antennae entirely yellow, sometimes faintly shaded toward the tip. L. 1.3-1.5 mm..... 12. T. subtilis Er.

1. Subgenus Carpalimus Thoms.

1. T. arcuatus Steph.

(Steph.-Ill. Brit. V, 324; Ganglb. Käf. M. II, 650. - scrobiculatus Erichs. Gen. Spec. Staph. 805; Kraatz Ins. D. II, 870; Thoms. Skand. Col. III, 134; Muls. et Rey Brévip. 1879, 263).

Our largest, especially broadest species, most like T. bilineatus, but easily identified by the arcuate, deep transversal impression of pronotum.

Black, finely haired, glistening; antennae either entirely black or their first joint brownish-red; legs pitch-brown with yellow tarsi and tips of tibiae, occasionally brownish-red.

The head is narrower than pronotum, finely and very densely punctated, and on each side anteriorly inside boss of antennal base with a rather deep longitudinal impression, eyes prominent and proportionately large, temples short, antennae as long as head and pronotum together, slightly thickened distally, their second and third joints of same length, the middle ones (5-7) fully as long as broad; pronotum much narrower than elytra, short cordate, with rounded-off fore-corners, and rounded-off obtuse hind-corners, densely and rather finely punctated, posteriorly with a very deep, arcuate, anteriorly open transversal groove, at middle in front of this with two oval, short impressions and often in front of these furthermore a flat fovea in the middle-line; elytra 1½ times as long as pronotum, rather fine and dense punctation, anteriorly along the suture slightly impressed; abdomen very finely and densely punctated. L. 3.8-4 mm.

In alluvium at lakes and water holes also on damp meadow-ground; distributed but rare (at Esrom lake, Fur lake, Iellinge brook, Sorø; Langesø and Dalum in Fyen; Haderslev). North and Middle Europe.

2. Subgenus Trogophloeus s. str. Thoms.

2. T. bilineatus Steph.

(Steph. Ill. Brit. V, 324; Ganglb. Käf. M. II, 651. - riparius Lac., Erichs. Käf. Mk. Br. I, 600; Gen. Spec. Staph. 807; Kraatz Ins. D. II, 871; Thoms. Skand. Col. III, 135; Muls. et Rey Brévip. 1879, 267).

One of our largest species, recognized especially by the characters of antennae and pronotum.

Black, finely gray-haired, somewhat glistening; elytra sometimes brownish; antennae pitch-black or pitch-brown, base of these, mouth-parts, and legs red or reddish-yellow, femora often dark.

The body (Fig. 171) is rather elongate, and somewhat broader than in the following species; head narrower than pronotum, finely and very densely punctated, anteriorly at each side rather strongly impressed, posteriorly distinctly constricted, and with short prominent temples, and rather large, somewhat protruding eyes, antennae longer than head and pronotum together, their third joint a little shorter than the second, the middle ones (5-7) distinctly longer than broad, especially in the ♂; pronotum anteriorly narrower than elytra, about 1½ times as broad as long, before the middle with strongly rounded sides and most often with acutely prominent, small fore-corners, posteriorly strongly narrowing, dorsum finely and very densely punctated, at sides with very dense scabrous

punctuation and dull, slightly convex, posteriorly at middle with two rather deep, anteriorly slightly divergent, longitudinal grooves, often transversally divided, separated by a middle carina, in middle-line before this often with a feeble fovea; elytra about $1\frac{1}{2}$ times as long as pronotum, densely and rather robustly punctated, along the suture slightly groove-like impressed; abdomen very finely and especially densely punctated. L. 3-3.5 mm.

Distributed in Europe, North Asia, North America and Australia; In this country common on damp ground, in alluvium and at rotting plants, also at manure.

3. T. rivularis Motsch.

(Motsch. Bull. Mosc. 1860, 552; Ganglb. Käf. M. II, 651. - bilineatus Erichs. Käf. Mk. Br. I, 600; Gen. Spec. Staph. 806; Kraatz Ins. D. II, 872; Thoms. Skand. Col. III, 135; Muls. et Rey Brévip. 1879, 271).

Very closely allied to preceding species, from which it is separated by the following details, which however are not always equally distinctively developed: ----- (Page 574)-----

It is ordinarily somewhat smaller and narrower; the body more deeply black, elytra very rarely brownish, legs often dark; pronotum at sides scarcely scabrose-punctated, and not dull, its sides before middle less strongly and more gradually rounded, fore-corners not acutely prominent, but are rounded off; elytra with distinctly finer and denser punctuation. L. 2.7-3 mm.

Under similar conditions as bilineatus, but apparently less widely distributed and more local; it is here found in Sjaelland, rarer in the other parts of the country (Fanders, Aalborg and other places).

3. Subgenus Taenosoma Thoms.

4. T. fuliginosus Gravh.

(Gravh. Micr. 102; Erichs. Käf. M. Br. I, 602; Gen. Spec. Staph. 808; Kraatz Ins. D. II, 875; Thoms. Skand. Col. III, 139; Muls. et Rey Brévip. 1879, 283; Ganglb. Käf. M. II, 653).

Easily identified, especially by the smooth, glistening surface of pronotum, without distinct impressions, and by a proportionately small head.

Black, very fine silky-glistening gray hair vestiture, rather shiny; elytra not infrequently brownish; antennae toward tip pitch-black, their base, mouth-parts and legs brownish-red or reddish-yellow.

The head is much narrower than pronotum, extremely finely shagreened, and with a longitudinal impression on each side anteriorly, posteriorly constricted, and with very short temples, but proportionately large, protruding eyes, antennae rather short, their third joint distinctly shorter than the second, the middle ones (5-7) as long as broad; pronotum before middle as broad as elytra, and $1\frac{1}{2}$ times as broad as long, with strongly rounded sides, posteriorly narrowing, dorsal side gradually convex, very densely and extremely finely punctated, rather glistening, without longitudinal impressions, only at posterior margin with a suggestion of a short fold in the middle-line, and a suggestion of an oblique impression on each side of this. Elytra are $\frac{1}{3}$ longer than pronotum, very densely and especially finely punctated, along the suture slightly grooved-impressed; abdomen especially densely and finely shagreened, dull shine. L. 2.7 mm.

On damp, rich friable soil, in compost, on the strand under seaweed and at water edges under leaves; distributed in North and Middle Europe, but rare or in this country very rare and local (Jaegersborg Dyrehave, the strand at Dyreborg, Vestfyen). Also found in Skaane (Thoms.).

5. T. impressus Lac.

(Boisd. Lac. Faun. Ent. Paris I, 467; Ganglb. Käf. M. II, 653. - inquilinus Erichs. Käf. Mk. Br. I, 603; Kraatz Ins. D. II, 874; Muls. et Rey Brévip. 1879, 295).

From the following species, corticinus, which it is most like, and with which it corresponds in the identifiable punctation of head and pronotum, it is mainly separated by a broader form of body, somewhat more slender antennae, and by the stronger punctation of elytra.

(Page 575)

Black, finely haired, somewhat glistening; the antennae and maxillary palpi pitch-black or pitch-brown; the first antennal joint, knees, tip of tibiae and tarsi brownish-red or reddish-yellow; legs sometimes brownish-red.

The body across elytra somewhat broadened; head but little narrower than pronotum, and together with same very densely and finely punctated, with distinctly separated punctures, and dully glistening, forehead anteriorly on each side with short impression, eyes rather large, twice as long as the temples, antennae rather short, at middle a little more slender than in corticinus, their third joint considerably shorter than the second, the fourth, fifth and sixth as long as broad, the seventh and following (7-10) transverse; pronotum much narrower than elytra, in pro-

portion to these peculiarly small, short, about twice as broad as long, and before the middle with strongly rounded, but posteriorly narrowed sides, feebly convex, at middle with two longitudinal impressions, which most often are divided into four flat foveae. The elytra are $1\frac{1}{2}$ times as long, and together $1\frac{1}{2}$ times as broad as pronotum and more glistening, very densely and rather finely punctated, along the suture feebly grooved impressed; abdomen extremely finely shagreened. L. 2-2.5 mm.

Distributed in Middle Europe; in our country very rare, on moist friable woodland soil under leaves and at grass-roots (Freerslev Hegn at Hillerød, Dyreborg in West Fyen), also at the beach under seaweed (Lyo).

6. T. corticinus Gravh.

(Gravh. Mon. 192; Erichs. Käf. Mk. Br. I, 603; Gen. Spec. Staph. 809; Kraatz Ins. D. II, 876; Thoms. Skand. Col. III, 137; Muls. et Rey Brévip. 1879, 301; Ganglb. Käf. M. II, 653).

A rather small, equally broad species, in relation to the following principally recognized by the distinct, though fine punctation of head and pronotum.

Black, somewhat glistening, finely haired; first joint of the antennae often brownish; legs pitch-black or pitch-brown with brownish-red or reddish-yellow knees and tarsi.

The head is a little narrower than pronotum, posteriorly constricted, anteriorly on each side shortly impressed, together with pronotum very finely and densely punctated, eyes somewhat protruding and rather large, temples plumply rounded, a little shorter than the eyes, antennae

short, their third joint short, much shorter than the second, the fourth, fifth and sixth feebly, the seventh as well as the next-last ones more strongly transverse; pronotum before middle broader than long, a little narrower than elytra, with rounded sides, narrowed posteriorly, the dorsum with two feebly arcuate, narrow longitudinal grooves, separated by a flat fold in the middle-line. Elytra about $1\frac{1}{2}$ times as long as pronotum, finely and densely punctated, anteriorly along the suture slightly grooved-impressed; abdomen especially finely shagreened. L. 2-2.5 mm.

Common everywhere on moist, on miry or richly friable soil, on the strand under seaweed and in alluvium, also under leaves at water-edges. Distributed in Europe, North Asia and North America.

7. T. foveolatus Sahlb.

(Sahlb. Ins. Fenn. I, 419; Erichs. Gen. Spec. Staph. 810; Kraatz Ins. D. II, 878; Thoms. Skand. Col. III, 138; Muls. et Rey Brévip. 1879, 291; Ganglb. Käf. M. II, 655).

A small species with impunctated, densely shagreened head and pronotum, particularly recognizeable by the robust punctation of elytra.

Black; head and pronotum almost dull, naked; elytra and abdomen somewhat glistening, especially finely haired; elytra sometimes brownish; legs brownish-black with yellowish-red knees and tarsi.

The body is shorter and proportionately a little broader than in corticinus; head a little narrower than pronotum, posteriorly constricted and with rather large, slightly protruding eyes, and somewhat shorter, plump, rounded temples, anteriorly on each side, inside basal boss of

the antennae slightly impressed, together with pronotum very densely shagreened, but without noticeable punctation, antennae short, their third joint small, much shorter than the second, the fourth, fifth and sixth small, rounded, the seventh as well as the next-last ones distinctly transverse; pronotum narrower than elytra, across the middle 1 1/2 times as broad as long, with rounded sides, posteriorly narrowing, on middle-dorsum and posteriorly with four, flat foveae; elytra amply 1/3 longer than pronotum, with deep, robust and dense punctation and most often without distinct sutural line; abdomen especially finely shagreened. L. 2 mm.

Distributed in Middle and North Europe, in this country rare or very rare, on damp meadow ground and at beaches under seaweed (Åmager; Nykøbing F.; Odense at Stavissaa; Haderslev, Esbjerg, Ringkøbing, Bravlev Enge).

8. T. halophilus Kiesw.

(Kiesw..Stett. Ent. Ztg. 1844, 373; Kraatz Ins. D. II, 877; Thoms. Skand. Col. III, 139; Muls. et Rey Brévip. 1879, 298; Ganglb. Käf. M. II, 656).

A small species, of same length as foveolatus, most often a little narrower and with more finely punctated elytra, further especially identifiable by impunctated head and pronotum, and by the very feeble, almost obliterated impressions of pronotum.

Black; very finely haired, feebly glistening; elytra and first joint of the antennae sometimes brownish; legs pitch-brown with reddish-yellow knees and tarsi.

Body is of equal breadth, rather narrow; the head nearly as broad as pronotum, with rather large, not very prominent eyes, and considerably

shorter temples, anteriorly at each side flatly impressed, posteriorly feebly constricted, together with pronotum very densely, sharply shagreened, but without isolated punctures, antennae short, their third joint very short and small, the fourth, fifth and sixth likewise small, roundly transverse, the following and next-last more strongly transverse; pronotum before the middle a little narrower than elytra, narrowing posteriorly, a little broader than long, at middle and posteriorly with four very feeble, sometimes entirely obsolete impressions; elytra somewhat longer than pronotum, sometimes hardly longer than this (v. curtipennis Muls.), finely and very densely punctated, without impressed sutural line; abdomen densely and extremely finely punctated. L. 1.5-2 mm.

Most nearly a strand species, and distributed especially along the coasts of middle Europe. In Denmark as a whole rare or very rare (Amager; Odense; Esbjerg, Aalborg). Also found in Skaane (Thoms.).

Very closely allied to this and the preceding species is T. punctipennis Kiesw. (Stett. Ent-Ztg. 1850, 221, Ganglb. Käf. M. II, 655). It is separated from both in that, the first joint of antennae is reddish-yellow, from foveolatus furthermore by, that the impressions on pronotum are feeble, often merely suggested posteriorly, and that the punctuation of elytra is less robust, yet somewhat more robust than in halophilus. It is distributed at the coasts of western Europe, but hardly farther northward.

9. T. elongatulus Er.

(Erichs. Käf. Mk. Er. I, 601; Gen. Spec. Staph. 807; Kraatz Ins. D. II, 874; Thoms. Skand. Col. III, 136; Muls. et Rey Brévip. 1879, 304; Ganglb. Käf. M. II, 654).

A medium sized, rather elongate, equally broad species, easily identified by especially short elytra, and by entirely dull head and pronotum.

Black; head and pronotum dull, extremely finely haired; elytra and abdomen somewhat glistening, distinctly gray-haired; elytra occasionally brownish; antennae pitch-black or pitch-brown, their base, mouth and legs brownish red, legs often with darker femora and tibiae.

The head hardly as broad as pronotum, posteriorly constricted, with rather small, not protruding eyes, of same length as the posteriorly plump temples, anteriorly on each side inside basal boss of the antennae feebly impressed, together with pronotum extremely densely and finely, dully shagreened, antennae short and rather thick, their third joint short, the middle ones (4-7) with the next-last transverse; pronotum a little narrower than elytra and a little broader than long, with anteriorly feebly rounded sides, slightly narrowing posteriorly, at middle of dorsum and posteriorly with two slight longitudinal impressions; elytra very little or not longer than pronotum, finely and very densely punctated, along the suture feebly grooved; abdomen extremely densely and finely shagreened. L. 2.5 mm.

On damp meadow- moor- and woodland-ground; distributed in this country and everywhere rather frequent. North and Middle Europe.

10. T. pusillus Gravh.

(Gravh. Micr. 78; Erichs. Käf. Mk. Br. I, 605; Jen. Spec. Staph. 811; Knechtz Ins. D. II, 880; Thoms. Skand. Col. III, 138; Muls. et Rey Brévip. 1879, 309; Gannlb. Käf. M. II, 686. - Puliginosus Gyllh. Ins. Suec. II, 460).

A very small, narrow elongate, equally broad and slightly flattish depressed species, identified by the color and proportionately large eyes etc.

Black or brownish black, feebly glistening, gray-haired with distinct silky gloss; elytra brown, brownish-red or brownish-yellow; antennae toward tip pitch-black, their base, and the mouth-parts brownish-yellow or brownish-red; legs yellow.

(Page 578)

The head is about as broad as pronotum, posteriorly constricted, anteriorly on each side flatly impressed, head and pronotum particularly densely punctated-shagreened, the punctures (even when greatly magnified) are difficult to segregate, the eyes proportionately large, somewhat protruding, temples short, antennae as long as head and pronotum together, their third joint small, the middle ones (4-6) feebly, the next-last ones more strongly transverse; pronotum a little narrower than elytra, a little broader than long, with slightly rounded sides and feebly narrowing posteriorly, at middle posteriorly with two feeble longitudinal grooves, which often are divided into four, very flat impressions; elytra about $1\frac{1}{2}$ times as long as pronotum, with especial fine and dense punctation, at base of suture feebly impressed; abdomen extremely finely shagreened. L. 1.5 mm.

Widely distributed in Europe, North Asia and North America; in this country sometimes numerous in gardens in compost and around hot-house boxes, more rarely at brims of lakes and brooks in alluvium.

11. T. gracilis Mannh.

(Mannh. Brach. 51; Ganglb. Käf. M. II, 657. - tenellus Erichs. Käf. Mk. Br. I, 606; Gen. Spec. Staph. 811; Kraatz Ins. D. II, 880; Thoms. Skand. Col. III, 137; Muls. et Rey Brévip. 1879, 311).

Very closely allied to, and in form, color, sculpture and appearance much like pusillus, from which it is separated by a few deviations.

The body is still somewhat narrower, very narrowly elongate (linear), The head as broad as pronotum, the eyes distinctly smaller, and temples nearly as long as eyes, plumply rounded, pronotum longer and narrower, as long as broad, a little narrower than elytra; these narrower and longer than in pusillus, $1\frac{1}{2}$ times as long as pronotum; abdomen longer, very elongated. L. 1.2-1.5 mm.

Distributed in Middle and North Europe; very rare in this country, in alluvium at water edges, and on marshy ground (Copenhagen at Lade-gaardsaa; Odense at Stavisaa, and in Munkemose; at Haderslev Dam).

12. T. subtilis Er.

(Erichs. Käf. Mk. Br. I, 606; Gen. Spec. Staph. 812; Kraatz Ins. D. II, 881; Muls. et Rey Brévip. 1879, 314; Ganglb. Käf. M. II, 657).

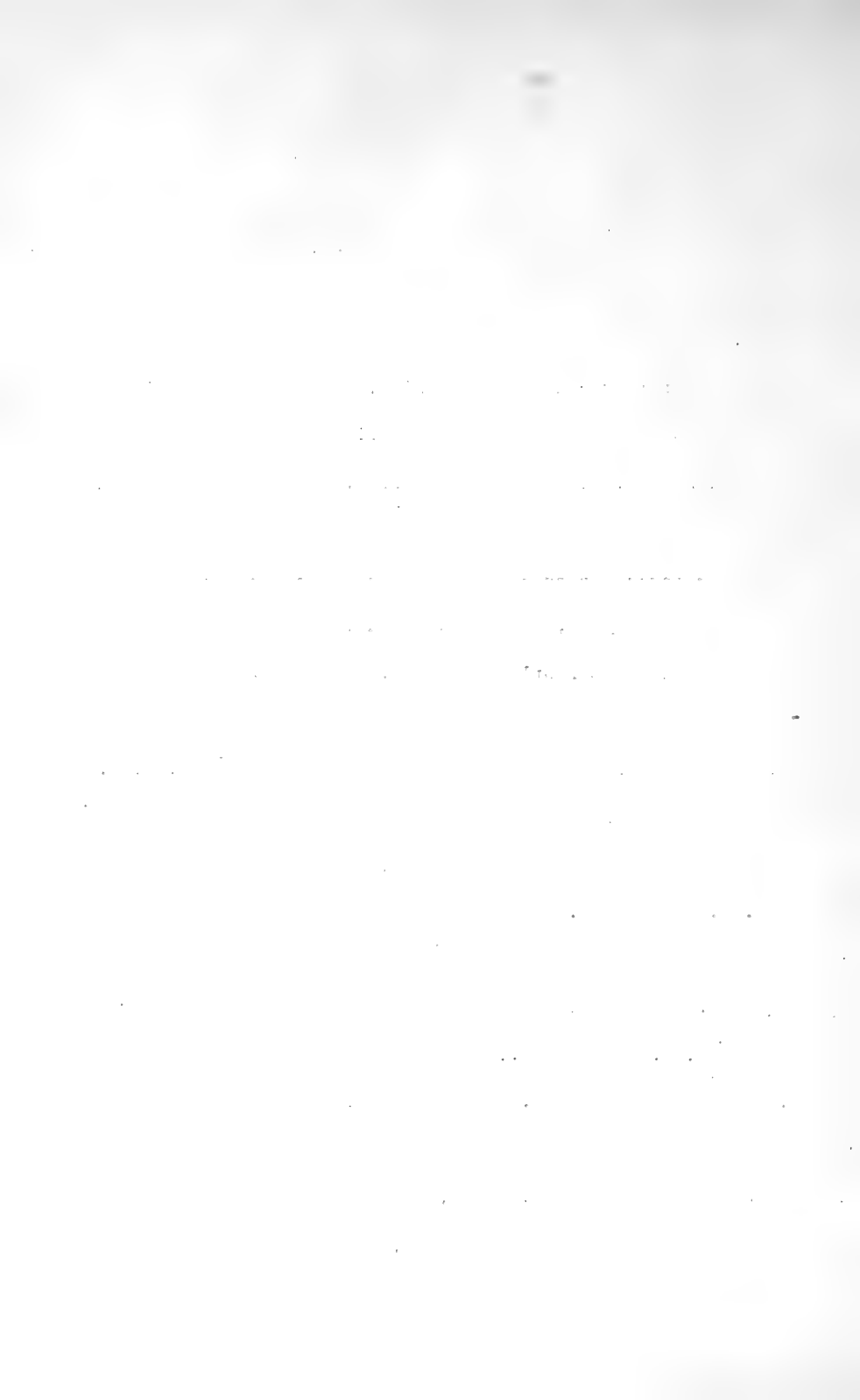
An especially fine, linear-narrow, elongate species, still narrower than than gracilis, and in relation to this, wherewith it is closely allied, recognized especially by entirely yellow antennae, small eyes and longer pronotum without distinct impressions.

Black, sometimes brownish-black, rather dully glistening; head and pronotum with extremely fine, elytra and especially abdomen with distinct and dense silky glistening gray hair vestiture; elytra brown; antennae, mouth-parts and legs reddish-yellow; elytra sometimes brownish shaded toward tip.

The head is feebly constricted behind, before the constriction as broad as pronotum, with small eyes and a little longer temples, eyes smaller and temples longer than in gracilis, head and pronotum extremely finely and densely punctated-shagreened, antennae like those of pusillus; -----(Page 579) ----- pronotum hardly as broad as elytra, as long as broad, with anteriorly slightly rounded sides, and posteriorly narrowing, without distinct or with two very feeble longitudinal impressions at middle posteriorly; abdomen elongate, extremely finely and densely punctated-shagreened. L. 1.2-1.5 mm.

Distributed in Middle Europe, especially on sandy river shores; in this country heretofore, as far as known, found only in Munkemose at Odense (N. P. Jørgensen).

Of Trogophloeus species with head not constricted behind (Subgenus Troginus Muls. et Rey) none are heretofore found in this country. One single species, T. exiguus Er., which is widely distributed in Middle Europe, may possibly be found. It is (Ganglb. Käf. M. II, 658) rather cylindrical of form and resembles a small Bledius, black with brownish-red mandibles, antennal base, knees, tibiae and tarsi; head and pronotum are densely shagreened, rather dull, impressions on the latter very



slight; elytra a little longer than pronotum, rather convex, without sutural groove, finely and densely punctated and together with abdomen finely haired. L. 1.5 mm.

99. Genus Thinobius Kiesw.

(Kiesw. Stett. Ent. Ztg. V, 1844, 355; Kraatz Ins. D. II, Ganglb. Käf. M. II, 659. - Thinophilus - Thinobius Muls. et Rey Brévip. 1879, 322, 342).

Thinobius is separated from Trogophloeus namely by, that the sutural corners of elytra are broadly rounded off, so that a triangular interval is formed, in which the whitish wings most often are distinctly seen, - and that the scutellum is visible. Furthermore is noted, that the body is slightly flattish depressed, head posteriorly more or less feebly constricted, pronotum without distinct impressions, elytra much longer than pronotum, abdomen of even breadth, legs short with rather broad femora, tibiae not spiniferous, and that tarsi are short, 2- or 3-jointed with proportionately long claw-joint.

Of the in Middle Europe found 10-12 species, which all are very small, only 1 is heretofore found in this country; they live on damp, finely sanded ground at river and lake shores.

1. T. brevipennis Kiesw.

(Kiesw. Stett. Ent. Ztg. XI, 1850, 221; Kraatz Ins. D. II, 885; Muls. et Rey Brévip. 1879, 348; Ganglb. Käf. M. II, 665).

Our smallest staphylinid.

Dully black with feebly glistening abdomen, and extremely finely haired.

The body is slightly flattish depressed; head, pronotum and elytra extremely densely and finely shagreened; head narrower than pronotum,

(Page 579)

with ordinarily large, coarsely faceted, scarcely prominent eyes, and a little shorter temples, antennae rather short, their third joint small, the middle ones (4-7) small, rounded, the next-last transverse; pronotum

(Page 580)

tum narrower than elytra, much broader than long, with smoothly rounded sides, distinct fore-corners and rounded-off hind-corners, slightly and gradually convex, at posterior margin often with two very feeble impressions; elytra $1\frac{1}{2}$ times as long as pronotum, smooth, and with broadly rounded off, hians sutural corners; abdomen particularly finely shagreened-punctated. L. 1-1.2 mm.

Distributed in Middle Europe and England. Very rare in this country, at lake shores and in alluvium; heretofore only few specimens are found (Sorø, Hillerød; Sanderum, Fyen).

Very similar to brevipennis is longipennis Heer (Kraatz Ins. D. II, 885, Ganglb. Käf. M. II, 664), with brownish elytra, antennae and legs, narrower head, larger eyes, longer antennae, of which the middle joints (4-6) are longer than broad, also longer elytra, approximately twice as long as pronotum. - It is widely distributed in Middle Europe, also found in Finland and may possibly be found here also.

I presume that these very small species, which are easily overlooked, are most easily found by sifting the semi-moist fine sand and alluvium at the water edges, through a fine sieve.

100. Genus Syntomium Curt.

(Curtis Brit. Ent. V, 1828, T. 228; Erichs. Gen. Spec. Staph. 821; Kraatz Ins. D. II, 890; Thoms. Skand. Col. III, 140; Muls. et Rey Brévip. 1879, 381; Ganglb. Käf. M. II, 679).

This genus deviates from the preceding Oxytelini genera by the short, thick and rather broad form of the body, and the bronze lustre (in the European species), and in appearance comes nearest to the Omalini, from which it inter alia differs by the absence of ocelli, and by the short trochanter of posterior coxae.

The head is narrower than pronotum, posteriorly feebly constricted, with proportionately large, protruding eyes and very short temples; antennae same as in Trogophloeus; clypeus sharply bounded by forehead; maxillary palpi rather robust, their last joint as long as the third, and at base almost as thick as this, from middle tapering.

Pronotum much narrower than elytra, with narrow, finely and acutely serrated side-margins, and acute hind corners, the dorsum posteriorly with two rounded, obliquely placed impressions, separated by an impunctate middle-line; elytra together broader than long, with slightly rounded-off outer corners, and broadly mutually emarginate posterior margin; abdomen as broad as elytra, with sharp, elevated, rather broad side-margins; middle-coxae contiguous; legs rather short, tibiae not spiniferous, tarsi 5-jointed, claw-joint about as long as the preceding four joints together, with widely spread claws.

To this only 1 European species, widely distributed in Middle and North Europe and also found in this country. An other species is known from Alaska.

----- (Page 581) -----

1. S. aeneum Mull.

(Muller Germ. Mag. IV, 216; Erichs. Gen. Spec. Staph. 821; Kraatz Ins. D. II, 892; Thoms. Skand. Col. III, 141; Muls. et Rey Brévip. 1879, 383; Ganglb. Käf. M. II, 681).

A peculiar, rather small species, easily identified by form and bronze lustre of the body, and by the coarse punctation of the thorax.

Thorax darkly bronze colored, glistening, often with greenish reflection; abdomen black with metallic lustre, together with elytra with very short and sparse hair vestiture; antennae distally toward tip, and the legs, especially tibiae and tarsi, brownish or brownish-red.

Short and broad (Fig. 172); the head narrower than pronotum, both with coarse and rather dense punctation, antennae rather short, their middle joints almost rounded, the three last (9-11) somewhat club-formed set off; pronotum (see above) narrower than elytra, much broader than long, with two distinct, short impressions posteriorly and smooth middle-line; elytra somewhat longer than pronotum, somewhat denser and coarser punctated than this, inside humeri and at suture most often feebly impressed; abdomen nearly impunctate, surface particularly finely shagreened. L. 2.5 mm.

On marshy and damp forest ground under moss and leaves; rare and most often singly, rarely in numbers (Øbjerggaard at Naestved, Lillerød; Fugballegaard at Vejle, Lundbykrat at Aalborg and other places).

Fig. 172. Syntomium aeneum Mull.

The larva, which is described and illustrated by Schiødte (Nat. Tidsskr. III. R. 8. B. 559 T. XX, Fig. 1-12), is remarkable, recognized by its short, broad, oval form, and black, metallic glistening color. It can roll itself up globular, and is slow in motion like the beetle, with which it has mutual abode.

8. Group Omalini.

(Ganglb. Käf. M. II, 697. - Omalini Erichs. Käf. Mk. Br. I, 613; Gen. Spec. Staph. 846; Kraatz Ins. D. II, 904. - Omalina Thoms. Skand. Col. III, 177. - Omaliens Rey Brévip. 1880, 1).

Prothorax behind fore-coxae is chitinized and its spiracula covered; antennae 11-jointed, inserted before the eyes under the smooth or feebly bossed side-margin of forehead. Vertex of the head with two very small, most often distinct ocelli (Oceller. Fig. 175). Fore-coxae are tap-shaped, hind coxae flat, the hindmost trochanter "appressed**)

Further remarks as follows:

The body is ordinarily somewhat flat, and most often proportionately broad, more infrequently strongly convex (Acrulia) or elongate-narrow; head porrect, in most of the genera considerably narrower than pronotum, often neck-shaped constricted behind, forehead as a rule with impressions or foveae, and the vertex most often with two short, sharp grooves, behind which the ocelli are found; the ocelli are in a few cases indistinct (Pycnoglypta, Acrulia). antennae are straight, filiform or somewhat thickened distally, occasionally feebly club-formed with some 3-5, larger distal joints; mandibles most often dentate; the last (fourth) joint of maxillary palpi in a few cases extremely small and spiculiform, and the next-last pyriform tumid (Coryphium et al.), otherwise the distal joint is always longer than the third, tapering.

Pronotum is sometimes cordate and longer than broad, however most

*) when rather large, and lying downward along upper part of femur.

most often transverse, its sides as a rule margined; scutellum is visible; elytra ordinarily considerably longer than metathorax, sometimes nearly as long as abdomen (Anthobium), rarely remarkably short (Micralymma), their outer hind corners rounded off and the sides marginate; abdomen broadly and sharply side-margined, its first ventral joint at base with a carina or short sharp fold (which is not found in Oxytelini). The legs are rather short, tibiae, especially the middle ones, sometimes spiniferous, tarsi 5-jointed, their claw-joint is either shorter or longer than the others together.

The sex-differences occur, most often in the form of the next-last ventral abdominal joint, frequently however also in other manners.

The majority of Omalini species favor damp ground and are found under leaves, moss and alluvium, others live in fungi and at waste or outflowing treesap and under bark, a few may be found, in contrast to the Staphylinidae in general, on bushes and blooming plants. - The larvae of a few genera are known (Acidota, Olophrum, Omalium, Anthobium et al.).

Besides the in Denmark found genera, two others are included in the key below (Micralymma Westw. and Acrulia Thoms.), of which their species occur in our nearest neighbouring countries, and may possibly also be found here.

Key to Genera.

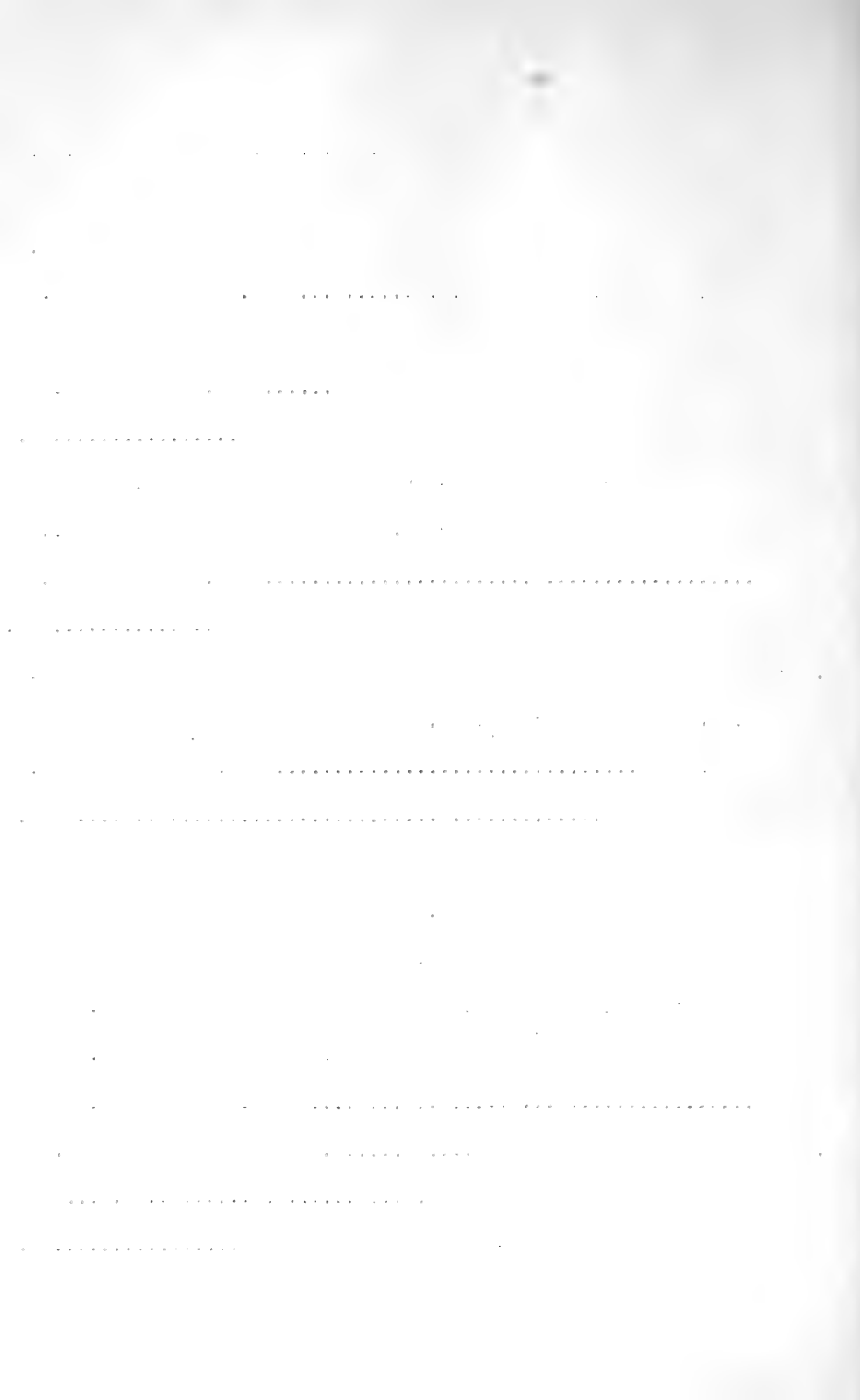
1. Distal joint of maxillary palpi extremely small and spiculiform, the next-last (third) joint pyriform tumid (Fig. 173). Head as broad



- as pronotum, this rather short cordate, anteriorly $1\frac{1}{2}$ times as broad as long..... 101. Coryphium Steph.
- Distal joint of maxillary palpi normal, most often considerably longer than the next-last, rarely shorter or considerably thinner than this, the third not pyriform tumid..... 2.
2. Pronotum rather cordate; head most often as broad as pronotum, sometimes broader. 3.
- Pronotum not cordate, only sometimes feebly narrowing posteriorly; head narrower than pronotum. 5.
3. Claws with a membranous pad at base (species live on bushes and flowers)..... 102. Anthophagus Gravh.
- Claws without membranous pad (species found under leaves and alluvium)..... 4.
4. Distal joint of maxillary palpi hardly as long as the next-last. 103. Geodromicus Redtb.
- Distal joint of maxillary palpi three-four times as long as the very short next-last joint..... 104. Lesteva Latr.
5. Hind-tarsal claw-joint shorter than the first four joints together:6.
- Hind tarsal claw-joint as long as or longer than the first four joints together..... 12.
6. Margin of elytral sides back of middle strongly downwardly arcuate. Forehead between the eyes with two punctiformis foveae. Pronotal corners rounded off..... 105. Orochares Kr.
- Margin of elytral sides from the humerus to the rounded off hind corners rather rectilineal..... 7.



7. Antennae rather long and slender..... 8.
- Antennae short and proportionately robust, of rather even thickness from base to tip. Body of even breadth and rather narrow (Fig. 181)..... 112. Xylodromus Heer.
8. Forehead grooves and foremost impressions entirely or almost obliterated; its fore-margin not margined..... 106. Olophrum Er.
- Forehead grooves or foremost impressions distinct..... 9.
9. Pronotal sides back of the side-foveae with double margin. Vertex deeply and sharply constricted. Tibiae robustly spiniferous..... 108. Deliphrum Er.
- Pronotal sides along entire margin singly margined..... 10.
10. Antennae distinctly, even though not strongly, thickened distally. Elytra proportionately long, often covering the greater part of abdomen..... 107. Lathrimaeum Er.
- Antennae filiform..... 11.
11. Abdomen with rather robust and dense punctation. Tibiae spiniferous, slightly thickened downward. Antennae quite robust..... 109. Acidota Steph.
- Abdomen not at all or very finely and indistinctly punctated. Tibiae not, or only very finely spiniferous. Antennae fine (Fig. 180) (Fig. 180)..... 110. Arpedium Er.
12. Elytra shorter than pronotum..... 111. Micralymma Westw.
- Elytra much longer than pronotum..... 13.
13. Tarsi simple or only fore-tarsi in the ♂ dilated..... 14.



- First four joints of all tarsi in both sexes dilated and long haired (Fig. 188)..... 120. Anthobium Steph.
- 14. Distal joint of maxillary palpi distinctly thinner than the next-last. Hind tarsal claw-joint twice as long as the very short first four joints together..... 15.
- Distal joint of maxillary palpi not thinner than the next-last. Hind tarsal claw-joint at most $1\frac{1}{2}$ times as long as the first four joints together.....16.
- 15. Pronotum with fine middle-groove and two, sometimes feeble, curves on fore-margin. Body evenly broad, narrow and flat. Head broad and short.....113. Phloeostiba Thoms.
- Pronotum at middle with two longitudinal impressions (Fig. 182)..114. Phloeonomus Heer.

- 16. Pronotum at middle with two distinct, posteriorly often deep longitudinal impressions. Mesothorax at middle-line finely carinated115. Omalium Gravh.
- Pronotum at middle either without longitudinal impressions or these are very feeble, almost obliterated..... 17.
- 17. Hind tarsi rather elongate, about $\frac{2}{3}$ the length of tibiae.....18.
- Hind tarsi shorter, only about half as long as tibiae..... 19.
- 18. Antennae short and robust, from base to tip most often of almost even thickness. Impressions of forehead obliterated. Body narrow, equally broad (Fig. 181)..... 112. Xylodromus Heer.

• *Journal of the American Medical Association* 2000;283:1001-1002

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- Antennae distinctly thickened distally, inasmuch as their last five joints form an oblong club..... 116. Phyllodrepa Thoms.
- 19. Antennal third joint at base remarkably thin. Elytra distinctly striped-punctated.....117. Acrolocha Thoms.
- Antennal third joint normal. Elytra not, or not distinctly striped-punctated. Ocelli of vertex indistinct..... 20.
- 20. Antennae with three larger distal joints. Pronotal side-margins smooth; body flatly convex.....118. Pycnoglypta Thoms.
- Antennae with five larger distal joints. Pronotal sides finely serrate; body strongly convex..... 119. Acrulia Thoms.

101. Genus Coryphium Steph.

(Steph. Ill. Brit. Ent. V, 1832, 344; Kraatz Ins. D. II, 968; Thoms. Skand. Col. III, 186; Rey Brevip. 1880, 392; Ganglb. Kaf. M. II, 701).

The form of body is somewhat like that of Lesteva, is slightly depressed and broadest posteriorly; head rather large, as broad as pronotum and constricted behind, eyes round and protruding, temples as long as the eyes and slightly rounded off, antennae rather slender and very feebly thickened distally; third joint of maxillary palpi is pyriform tumid, larger and much thicker than the second, distal joint extremely small, filiform or aculeiform, however (sufficiently magnified) recognizable in tip of the third joint (Fig. 173).

Fig. 173. Maxillary palpi of Coryphium angusticolle Steph.

Pronotum is distinctly broader than long, but narrower than elytra, with anteriorly rounded sides and extremely finely serrated side-margins,

posteriorly feebly narrowing; elytra more than twice as long as pronotum, somewhat broadened posteriorly and with rounded-off hind corners; abdomen as broad as elytra and with broad upturned, sharp side-margins, toward tip roundly-narrowed; legs rather short, tibiae finely haired, not spiniferous, hind tarsi distinctly shorter than tibiae, their first two joints longer than the two following, claw-joint shorter than the first four joints together.

The species are most at home in the alpine and northern countries. Of the three European species known, one is found in this country.

1. C. angusticolle Steph.

(Steph. Ill. Brit. V, 344; Kraatz Berl. Ent. Zeitschr. 1857, T. I, 4, Fig. a; Ins. D. II, 971; Rey Brévip. 1880, 395; Ganglb. Käf. M. II, 702. - ? bifoveolatus Thoms. Skand. Col. III, 186).

Identified especially by the generic characters and in connection therewith by the color.

Pitch-black or pitch-brown, finely and sparsely haired, somewhat glistening; ----- (Page 585) ----- pronotum most often brown and the elytra reddish-brown; mouth, antennal base, and the legs reddish-yellow.

The head across the protruding eyes fully as broad as pronotum, and together with same rather densely and robustly punctated, forehead anteriorly with two flat foveae and the vertex with two distinct ocelli, antennae rather slender, their next-last joints a little longer than broad; pronotum anteriorly about $1\frac{1}{2}$ times as broad as long, with rather strongly rounded sides and very finely serrated side-margins, posteriorly

slightly narrowing, slightly convex, dorsum with two, more or less distinct longitudinal impressions, separated by a slightly elevated interval, and back of this most often confluent, at the side-margins further more with a small fovea at middle; elytra considerably broader than, and fully twice as long as pronotum, posteriorly feebly broadened, with dense and robust punctation; abdomen especially finely and rather densely punctated. L. 3 mm.

In the ♂ the first four joints of fore-tarsi are feebly dilated; the sutural angle of elytra is more acute, and abdomen more tapering posteriorly than in the ♀.

It is found under bark of deciduous and pinacious trees, which are infested with bark-beetles, also under moss on or around old stumps, or under rotting plants, is distributed in North and Middle Europe, but in most places, also in this country very rare, and most often found singly (Ry, Silkeborg; Sorø, Køge, Donse; Almindingen in Bornholm). In Skaane the larva found in a hollow oak and reared by Mag. A. Kemner, Lund (19/4 1914).

The larva is illustrated and described by Perris (Ann. Soc. Ent. Fr. 1853, 573, T. 17, Fig. 44-48). It lives in the burrows of the bark-beetles, and is apparently feeding on their young and offal.

Closely related to Coryphium angusticolle is Boreaphilus Henningianus Sahlb. (Kraatz Berl. Ent. Zeitschr. 1857, 41, T. I, 4 b). It resembles Coryphium in size and color etc. and is like this distinguished in, that the next-last joint of maxillary palpi is pyriform thickened, and the last

very small and aculéiform. It is separated from C. angusticolle by, that the head is larger and broader than pronotum, and that this is much longer and narrower than in Coryphium, $1\frac{1}{2}$ times as long as broad. - It has its home in northern Finland and Norway, but was according to informations by the late Pastor Jakobsen (see Forh. at Skand. Naturforskeres meeting at Copenhagen 1847) found by him on Flommen at Sorø (2. 11. 1843, 3 specimens). As this finding is not present in Jakobsen's collection in Zool. Museum, Copenhagen, and the species has not later been refound at Sorø or elsewhere in the country, it may be surmised, that Jakobsen erroneously has identified Coryphium angusticolle Steph. as Boreaphilus Henningianus Sahlb.

102. Genus Anthophagus Gravh.

(Gravh. Micr. 1802; Erichs. Käf. Mk. Br. I, 614; Gen. Spec. Staph. 847; Kraatz Ins. D. II, 912; Thoms. Skand. Col. III, 178; Rey Brévip. 1880, 9; Ganglb. Käf. M. II, 704).

The body is flatly convex; head porrect, constricted behind forming a short neck, eyes often greatly protruding, round, temples rounded off,

(Page 586)

more or less convex, forehead before the closely set ocilli with two linear, sharp grooves, antennae long, filiform, mandibles more or less prominent, in the ♂ often very strongly developed, last (fourth) joint of maxillary palpi at least as long as the next-last and gradually tapering.

Pronotum is distinctly narrower than elytra, strongly narrowing posteriorly or rather cordate; elytra approximately twice as long as pronotum, together with same side-margined; abdomen broad, with broadly up-

turned side-margins; legs long and slender, tibiae scarcely spiniferous, the tarsi, among all other Omalini especially remarkable in, that each claw at base is provided with a small membranous pad; hind tarsi are shorter than the tibiae, their first joint elongate, longer than the second, claw-joint shorter than the first four joints together.

In the ♂ the sixth ventral abdominal joint emarginate at tip; in several (foreign) species is furthermore the head especially large, and mandibles and temples peculiarly strongly developed, sometimes the forehead is on each side armed with an acute horn.

The species live on bushes and flowers and are especially distributed in mountainous and northern regions. Of those in Middle and North Europe native 15 species, only 1 is found in Denmark.

1. A. caraboides Linn.

(Linne Syst. Nat. Ed. X, 422; Thoms. Skand. Col. III, 180; Ganglb. Käf. M. II, 709. - testaceus Gravh. Micr. 121; Erichs. Käf. Mk. Br. I, 615; Gen. Spec. Staph. 851; Kraatz Ins. D. II, 924; Rey Brévip. 1880, 46).

Somewhat larger than Lesteva Longelytrata Goeze (bicolor Er.), and among the other species of the genus recognized by the smooth, not shagreened surface of the head (subg. Phazanthus Rey) also by especially long, slender antennae, and by the color.

Reddish-yellow, glistening, sparsely and finely haired; abdomen before the tip most often brownish, sometimes more extensively blackish brown; head and pronotum brownish red.

The head (Fig. 174) is across the strongly protruding eyes in both sexes nearly as broad as pronotum, robustly and rather densely punctated,

forehead at middle flatly impressed with two sharp, forwardly feebly diverging grooves, ocelli small, antennae much longer than head and pronotum together, all their joints longer than broad; pronotum rather cordate, much narrower than elytra, and with rectangular hind corners, slightly convex, rather robust and densely punctated; elytra twice as long as pronotum, a little less dense, but somewhat more robustly punctated than same, feebly broadened posteriorly; abdomen with very fine and scattered punctation. L. 5 mm.

In forests and groves, where it sometimes in great numbers can be beaten down from hazel, alder and birch. Distributed in Middle and North Europe, with us mostly in the islands and in eastern Jutland, somewhat local.

103. Genus Geodromicus Redtb.

(Redtb. Faun. Austr. 1858, 224; Thoms. Skand. Col. III, 180; Rey Brévip. 1880, 53; Ganglb. Käf. M. II, 710).

From Anthophagus Gravh., with which Geodromicus formerly was united (cf. Erichson and Kraatz), it is mainly separated only by this: that the fourth joint of maxillary palpi is shorter, somewhat shorter than the third, which toward tip is rather strongly thickened, and that the claws are simple, without pad at base. Forehead at middle deeply impressed and the body distinctly haired. From Lesteva it is separated namely by the different structure of maxillary palpi.

Fig. Anthophagus caraboides Linn.

The species live on damp ground at strand and lakes under stones, in alluvium and the like, and are natives especially of highland and mountain regions. Of the few European (5) species 2 are distributed in North Europe, and one of these is very local in this country.

1. G. plagiats Fabr.

(Fabr. Ent. Syst. Suppl. 180; Erichs. Kraatz Ins. D. II, 925; Thoms. Skand. Col. III, 181; Rey Brévip. 1880, 57; Ganglb. Käf. M. II, 711).

Considerably larger than Lesteva longelytrata Goeze (bicolor Er.), but of same form as this; ordinarily easily identified inter alia by the color of elytra, which however somewhat varies.

Black, glistening, distinctly and rather densely gray-haired; elytra most often with a red, more or less spreading longitudinal spot at middle, more rarely entirely black (var. nigrita Mull); antennae and legs brownish-red or blackish-brown; femora and tarsi in the typical form most often reddish yellow or yellowish-red.

The head in both sexes narrower than pronotum, with rather scattered and robust punctation, forehead between the rather large, protruding eyes deeply impressed, in the impression with two feeble longitudinal grooves and each of these two distinct ocelli, temples shorter than eyes, rounded off, antennae long and slender, much longer than head and pronotum together, their first joint thickened, the following all longer than broad, the second shortest; pronotum narrower than elytra, cordate, with rectangular hind corners, slightly convex, with rather dense and robust punctation, and with a transversal fovea posteriorly in front of scutellum; elytra more than twice as long as pronotum, broadened posteriorly and

and with rounded off outer hind-corners, somewhat more robust, but hardly denser punctation than pronotum; abdomen with fine isolated punctation. L. 5-6 mm.

In the ♂ the first four joints of fore-tarsi are dilated and haired, and the sixth ventral abdominal joint at tip slightly emarginate.

In this country heretofore only found singly a few times in Bornholm: Neksø on the strand under seaweed (5. 1854 Bergsøe), on the strand at Hammeren under alluvium and loose stones (Author 6. 1890, Wielandt 6. 1906), and at Sandvig (Rye). The found specimens all belong to the typical form (G. plagiatus); in England and Scotland the form with entirely black elytra (v. nigrita Mull.) is said to be more common than the typical form.

104. Genus Lesteva Latr.

(Latr. Precis des Caract. gen. des Ins. 1796, 75; Erichs. Käf. Mk. Br. I, 616; Gen. Spec. Staph. 855; Kraatz Ins. D. II, 930; Thoms. Skand. Col. III, 182; Rey Brévip. 1880, 63; Ganglb. Käf. M. II, 712).

From the two preceding, closely allied genera, Lesteva is separated principally and easily by, that the distal joint of maxillary palpi is 3-4 times as long as the very short next-last joint.

The body is more or less elongate, flatly convex, haired; the head is narrower than pronotum, constricted behind, and with somewhat protruding eyes and shorter, rounded off temples, the forehead between eyes with two foveae or oval impressions, which do not reach up to the small, yet distinct ocelli on the vertex, antennae slender, filiform, their first joint thickened, the following most often all more or less elongate.

Pronotum is cordate, narrower than elytra, their sides very finely, sometimes incompletely margined; elytra much longer than pronotum, posteriorly broadened; abdomen with broadly, sharply upturned side-margins, posteriorly roundly tapering; legs rather slender, tibiae not spiniferous, claw-joint of hind tarsi much shorter than the first four joints together.

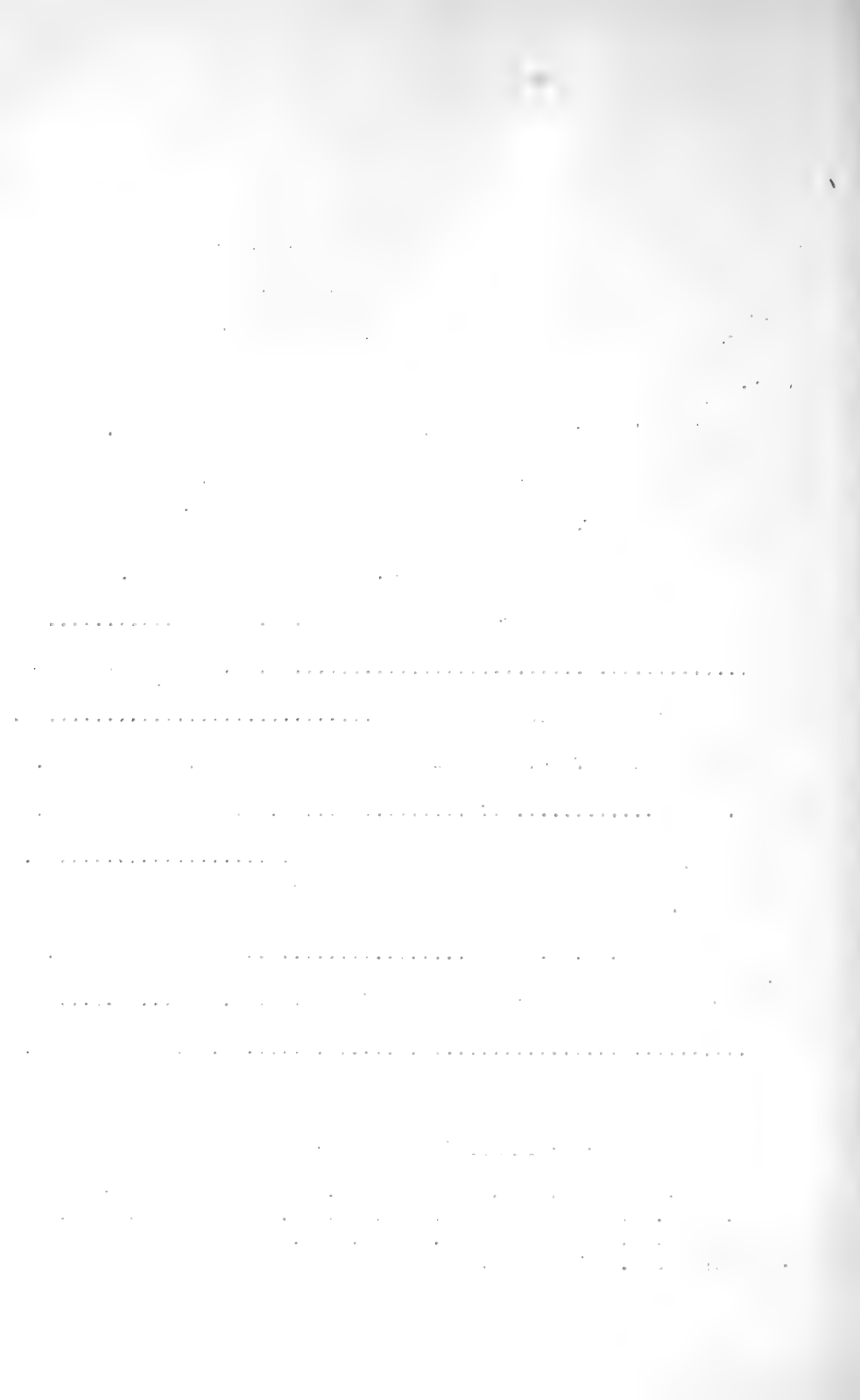
The species live on damp ground, especially at water-edges. Distributed in Middle and North Europe, ten species are found, of which four are natives of Denmark.

Key to Species.

1. Elytra more than twice as long as pronotum. L. 4-5 mm.....
..... 1. L. longelytrata Goeze.
- Elytra not twice as long as pronotum..... 2.
2. Head and pronotum finely and very densely punctated, rather dull.
L. 4 mm..... 2. L. pubescens Mannh.
- Head and pronotum rather coarsely punctated..... 3.
3. Sides of pronotum finely, but completely, also posteriorly distinctly margined. L. 3.5 mm..... 3. L. sicula Er.
- Sides of pronotum posteriorly not margined. L. 3.5 mm.....
..... 4. L. punctata Er.

1. L. longelytrata Goeze.

(Goeze Ent. Beytr. I, 729, 1799; Ganglb. Käf. M. II, 714. - bicolor Fabr. Ent. Syst. I, 2, 529; Erichs. Käf. Mk. Br. I, 616; Gen. Spec. Staph. 855; Kraatz Ins. D. II, 932; Thoms. Skand. Col. III, 182. Rey Brévip. 1880, 72. - obscura Payk. Faun. Suec. III, 388).



In relation to the rest of our species identifiable especially by longer elytra.

Black or pitch-black, rather glistening, finely haired; elytra sometimes lighter or darker pitchy-brown; antennae, mouth-parts, and legs as a rule brownish red, the first antennal joints, femora and tibiae however often darker.

Head and pronotum are densely and rather robustly punctated, grooves of forehead anteriorly foveate deepened, antennae (Fig. 175) long, slender, longer than head and pronotum together; pronotum cordate, with almost rectangular hind corners, and finely but completely margined sides; elytra distinctly more than twice as long as pronotum, somewhat more robustly punctated than same, posteriorly only feebly broadened; abdomen very finely and densely punctated. L. 4-5 mm.

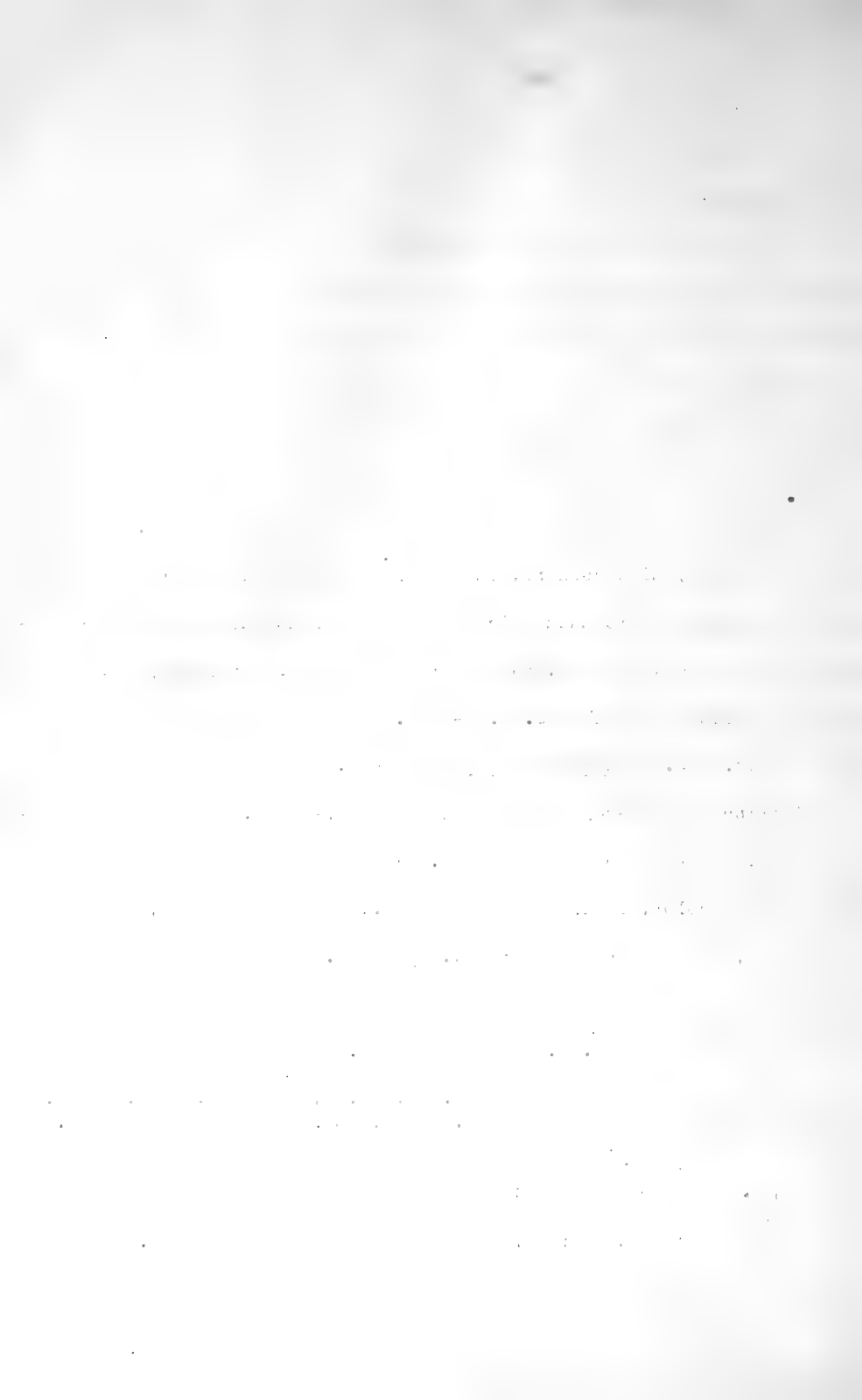
Fig. 175. Lesteva longelytrata Goeze.

Distributed and everywhere common at water-edges, especially on muddy ground, under leaves and alluvium. It varies according to abode (?) differing in color, lustre, vestiture etc.; a darkly colored, strongly glistening, sparsely haired form (v. maura Br.) I have found at Esrom lake.

2. L. pubescens Mannh.

Mannh. Brachel. 57; Erichs. Käf. Mk. Br. I, 617; Gen. Spec. Staph. 656; Kraatz Ins. D. II, 931; Thoms. Skand. Col. III, 183; Rey Brévip. 1880, 66; Ganglb. Käf. W. II, 713).

Shorter and proportionately broader than longelytrata, recognised principally by the fine or very fine punctation of the thorax.



Black, feebly glistening, densely haired; mouth, tarsi and legs brownish-red.

Head very densely and finely punctated, its longitudinal grooves somewhat deeper than in longelytrata, anteriorly foveate, antennae thin and long; pronotum cordate, posteriorly more strongly constricted than in the preceding species, and dorsum more flatly convex, with very dense and very fine punctation, at middle posteriorly with a feeble transversal impression, before this at middle often slightly elevated; elytra hardly twice as long as pronotum, posteriorly strongly broadened, finely and densely punctated; abdomen with extremely fine and dense punctation. L. 4 mm.

Distributed in Middle and North Europe; in this country found only in few numbers at Silkeborg (in June, Engelhart).

3. L. sicula Er.

(Erichs. Gen. Spec. Staph. 857; Ganglb. Käf. M. II, 714. - Heeri Fauv. Faun. Gall. III, 106; Rey Brévip. 1880, 84. - punctata Thoms. Skand. Col. IX, 310).

From following species, punctata Er., with which it is very similar in color and robust punctation, it is separated especially by the fully margined sides of pronotum. It is either entirely wingless or the wings are incompletely developed.

Pitch-black or reddish-brown, finely and sparsely haired, somewhat glistening; antennae, mouth-parts and legs yellowish-red; elytra often brownish red and lighter than pronotum.

Head and pronotum with robust and very dense punctation, foveae of forehead small and flat in almost obliterated longitudinal impressions, antennae less slender than in the preceding species; pronotum short cordate, rather convex, with a small fovea at each side in middle of side-margin, sides finely, yet distinct and completely margined; elytra broader than, and not twice as long as pronotum, posteriorly rather strongly broadened, densely and coarsely punctated; abdomen densely and finely punctated. L. 3.5 mm.

Distributed in Middle and North Europe. Very local in this country, but found numerously both at Aalborg under alluvium at the fjord (Auth.) and at Haderslev fjord (Andersen), singly also in Gravlev meadows at Skørping (Author).

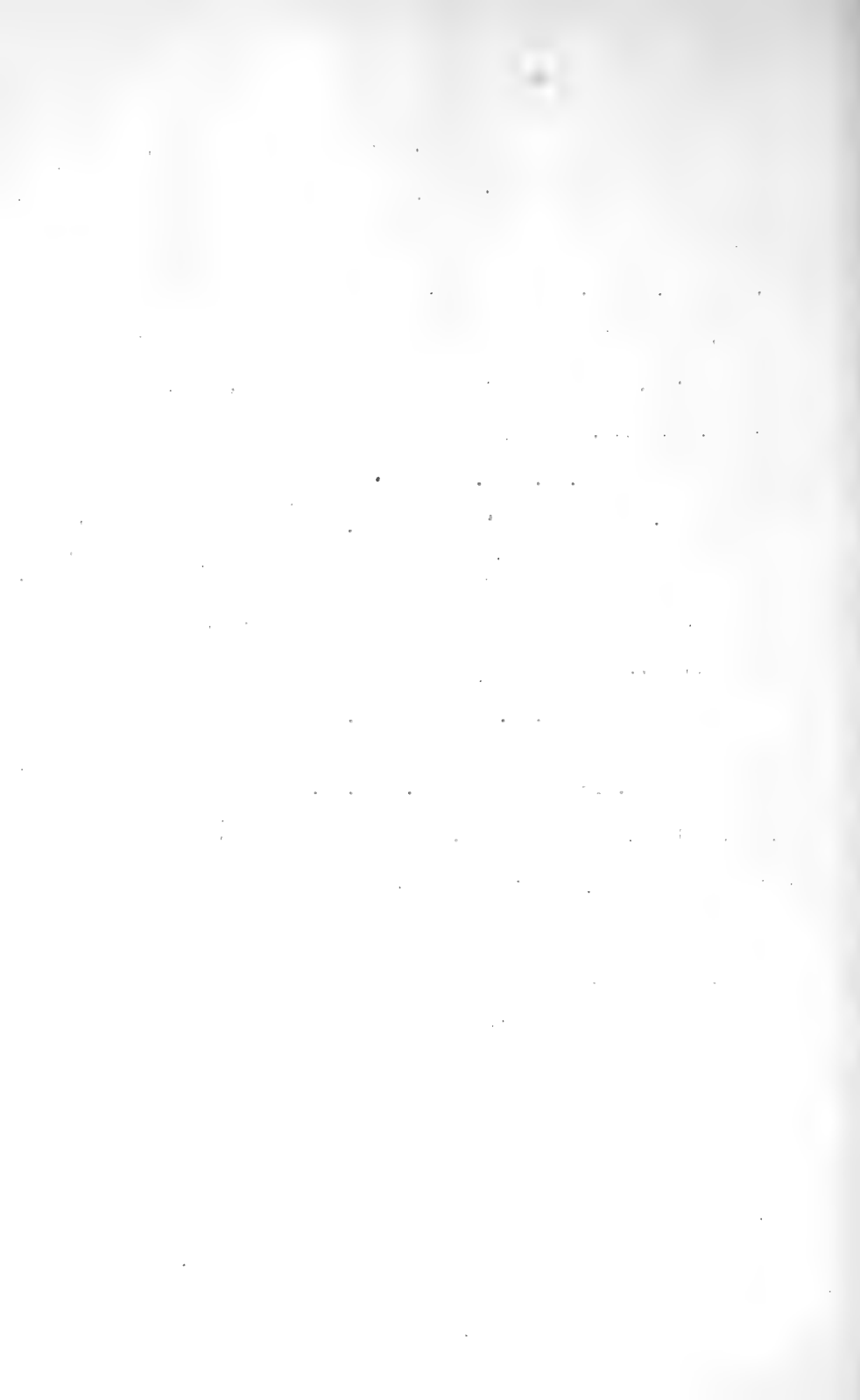
4. L. punctata Er.

(Erichs. Käf. Mk. Br. I, 618; Gen. Spec. Staph. 857; Kraatz Ins. D. II, 934; Rey Brévip. 1880, 82; Ganglb. Käf. M. II, 714).

Very closely allied to sicula, and like this wingless, but as a rule narrower, more coarsely punctated and with incomplete side-margined pronotum.

Pitch-black or brownish-red, sometimes brownish-yellow, glistening, rather finely and sparsely haired; antennae, mouth-parts and legs rusty red.

Head and pronotum with coarse and dense punctation, the foveate impressions of forehead large and deep, antennae rather slender; pronotum cordate, before middle with strongly dilated, finely margined sides, and at middle of these with a robust side-impression and in this a fovea,



whereby the side in front of the impression is formed like a boss, from back of this to hind-corner the sides are not margined. Elytra are $1\frac{1}{2}$ times as long as pronotum, with very coarse but not very dense punctation, distinctly broadened posteriorly; abdomen with dense and rather fine punctation. L. 3.5 mm.

On the strand and at lake shores in alluvium, also on damp forest ground under leaves; distributed in Middle Europe, with us it is rare (Copenhagen, at Esrom lake, Sorø, Møen; Odense; Vejle at Tjele lake, Saeby woods and other places). In northern Europe it is heretofore apparently not found.

105. Genus Orochares Kr.

(Kraatz Ins. D. II, 955; Rey Brévip. 1880, 89; Ganglb. Käf. M. II, 725).

Among the Omaliini genera with not cordate pronotum, Orochares is especially characterized by, that the margin of elytral epipleura from a little before middle to the broadly rounded-off hind corners curve arcuately downward, while in the following genera it is almost linear from humerus to the hind corner.

The body (Fig. 176) is rather flat, broadest posteriorly, the dorsal surface naked, glistening; the head somewhat narrower than pronotum, longer than broad, with rather large, somewhat protruding eyes, and shorter, slightly oblique temples, posteriorly not constricted, forehead between eyes with two punctiformis, deep foveae, ocelli on the vertex distinct; antennae are filiform, slender, last joint of maxillary palpi twice as

long as the next-last, tapering.

Pronotum is much narrower than elytra, as broad as long and not, or only feebly narrowing posteriorly, its side-margins distinct, narrowly set off, and posteriorly slightly upturned, the corners rounded off; elytra more than twice as long as pronotum, broadened posteriorly; abdomen posteriorly short tapering, its side-margins upturned, sharpe; legs slender, the middle- and hind-tibiae finely spiniferous, hind tarsal claw-joint shorter than the first four joints together.

To this genus only 1 European species, also found in Denmark.

1. O. angustatus Er.

(Erichs. Gen. Spec. Staph. 874; Kraatz Ins. D. II, 956; Rey Brévip. 1880, 91; Ganglb. Käf. M. II, 726)

Easily identified by the above stated genus-characters, and by the color.

Black, glistening, naked; pronotal side-margins often brownish; elytra brownish-yellow; antennal base, and legs reddish yellow.

Head and pronotum with very fine and scattered punctation, the surface scarcely transversally aciculated, the antennae (Fig. 176) much longer than head and pronotum together, all joints longer than broad, the first slightly thickened, the second shortest; pronotum (see above) slightly convex, posteriorly before the scutellum slightly impressed; scutellum with simple punctation; abdomen almost smooth. L. 4 mm.

In the ♂ the first four joints of fore-tarsi are more broadly cordiform dilated than in the ♀ and their hairs are thickened at tip (Kraatz).

Fig. 176. Orochares angustatus Er.

Distributed in Middle Europe. It lives under rotting plant-stuff and dry manure, also in hollow trees, and comes forth especially in the months from November to April, --(Page 592)----- often sitting on fences, walls, tree trunks etc., sometimes crawling on the snow. In Denmark it is only found a few places in the islands, but sometimes numerous (Copenhagen, Hillerød; Nykøbing F.). In northern Europe it is not found.

106. Genus Olophrum Er.

(Erichs. Käf. Mk. Br. I, 622; Gen. Spec. Staph. 863; Kraatz Ins. D. II, 938; Thoms. Skand. Col. III, 192; Rey Brévip. 1880, Ganglb. Käf. M. II, 719).

The body is broad, rather short, sometimes thick and convex, almost naked; head much narrower than pronotum, not constricted back of eyes, and with smooth forehead without foveae or grooves before the small ocelli, the foremost impressions obliterated or very feeble, fore-rim not margined, eyes rather small and slightly protruding, antennae slender, almost filiform, last joint of maxillary palpi twice as long as the next-last, smoothly tapering.

Pronotum is broader than long, not or very little narrower than elytra, hardly narrowing posteriorly; elytra most often more than twice as long as pronotum and somewhat broadened posteriorly; abdomen broad, posteriorly tapering, its side-margins slightly upturned; legs rather slender, tibiae not spiniferous, the first two joints of hind tarsi somewhat elongate and of equal length, claw-joint shorter than the first four joints together.

The species live on damp ground, especially marsh- and forest-ground,

and are mainly natives of northern countries and Middle European highlands. Of 8 known European species, 3 are found in Denmark.

Key to Species.

1. Hind corners of pronotum entirely rounded off..... 2.
- Hind corners of pronotum distinct, obtuse angular. L. 3.5-4 mm...
..... 3. O. assimile Payk.
2. Pronotum and elytra about equally densely and coarsely punctated.
Body thick and convex. L. 4.5-5.5 mm..... 1. O. piceum Gyllh.
- Pronotum much more finely and densely punctated than the here and
there rowed punctated, flatly convex elytra. L. 4-4.5 mm.....
..... 2. O. fuscum Gravh.

1. O. piceum Gyllh.

(Gyllh. Ins. Suec. II, 200; Erichs. Käf. Mk. Br. I, 623; Gen. Spec. Staph. 864; Kraatz Ins. D. II, 939; Thoms. Skand. Col. III, 193; Rey Brévip. 1880, 135; Ganglb. Käf. M. II, 720)

The body is thick and convex, pronotum and elytra coarsely and more uniformly punctated than in the following species.

Pitch-brown or reddish-brown, naked, glistening; pronotum or at least its sides often pale red; antennae, mouth and legs brownish red; base and tip of antennae, also tarsi ordinarily yellowish-red.

Head robustly and rather densely punctated, forehead without grooves before the ocelli, but with two, very flat, feeble impressions anteriorly above antennal base, antennae slender, very feebly thickened distally, all joints longer than broad, but the next-last however a little shorter

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and more robust than the middle ones. Pronotum (Fig. 177) nearly as broad as elytra, twice as broad as long, with rounded, slightly impressed set off, finely margined sides and entirely rounded off hind corners, convex, with coarse and rather dense, at middle somewhat finer punctation, most often with a small, smooth spot posteriorly in middle-line; elytra twice as long as pronotum and like this coarsely and rather densely punctated, convex, somewhat broadened posteriorly; abdomen smooth. L. 4.5-5.5 mm.

Distributed in Middle and North Europe; in this country rather common on moist marsh or woodland ground under the plant cover.

Fig. 177. Olophrum piceum Gyllh.

2. O. fuscum Gravh.

(Gravh. Mon. 211; Erichs. Käf. Mk. Br. I, 623; Gen. Spec. Staph. 865; Kraatz Ins. D. II, 940; Thoms. Opus X, 1033; Rey Brévip. 1880, 138; Ganglb. Käf. M. II, 720).

From piceum, to which it is closely allied, it is separated mainly by the following details:

The body is less convex, and especially in the ♂ more elongate, the color most often darker, pitch-black or pitch-brown, pronotal sides, antennal base, mouth-parts and legs brownish red; pronotum hardly twice as broad as long, finely and densely punctated, denser and much finer than elytra, which are coarsely, here and there rowed punctated, most often as long as in piceum, but in a smaller, narrower form of ♂ shorter, hardly twice as long as pronotum. L. 4-4.5 mm.

Distributed in Middle and North Europe; with us it is rare and local, oftenest found in North Sjaelland in woodland marshes and in alluvium at lakes (at Lyngby lake, Fursø, Arresø, Hillerød and other places, also at Haderslev). The larva is found at Lyngby lake together with the beetle under alluvium and reared (4. 05, Author).

3. O. assimile Payk.

(Payk. Faun. Suec. III, 409; Erichs. Käf. Mk. Br. I, 624; Gen. Spec. Staph. 865; Kraatz Ins. D. II, 942; Thoms. Skand. Col. III, 194; Rey Brévip. 1880, 139; Ganglb. Käf. M. II, 720).

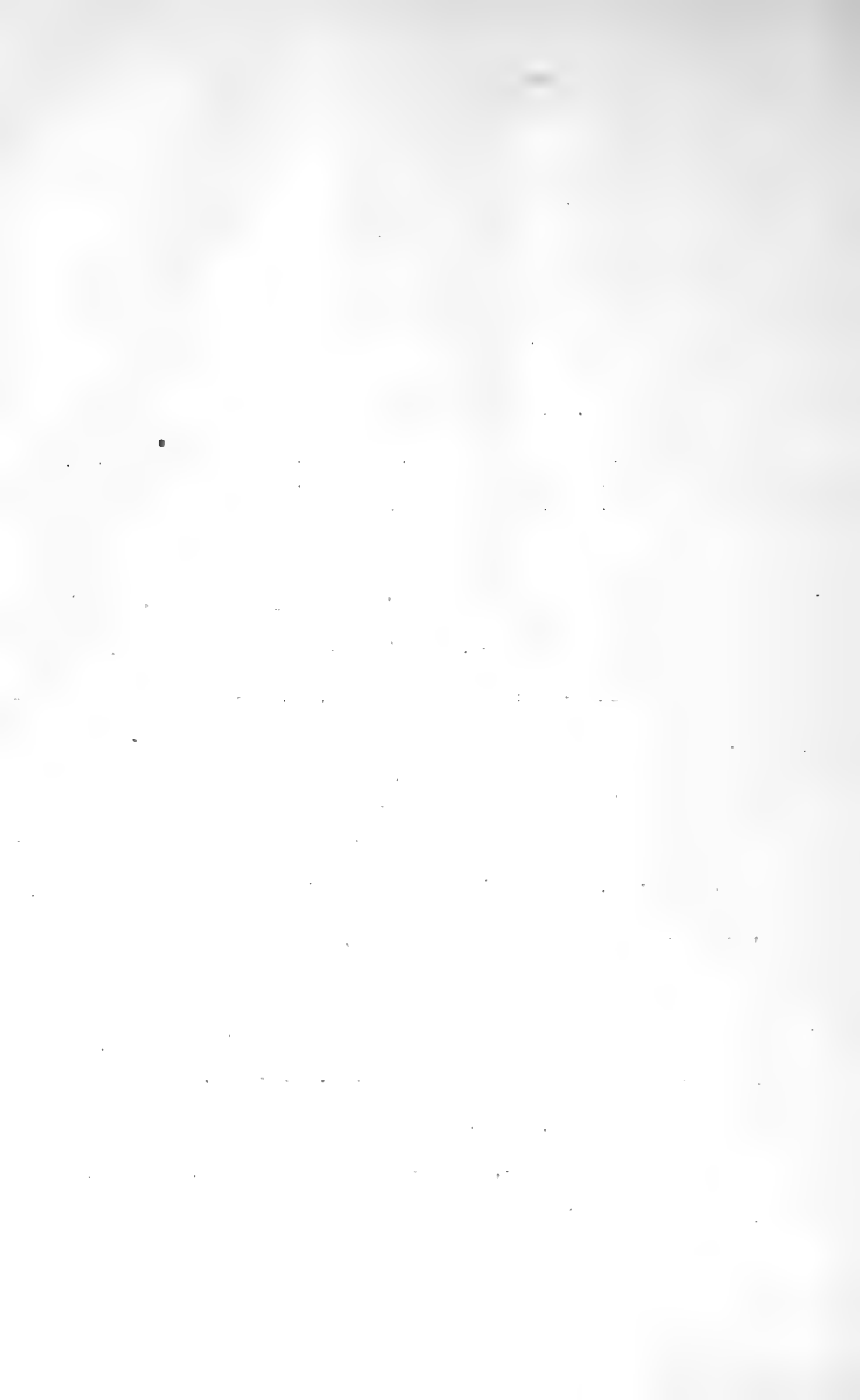
Somewhat smaller than the preceding species, and forwardly more narrowing, flatly convex, otherwise also recognized by the color.

Reddish-yellowish-brown, somewhat glistening, naked; metathorax and abdomen brownish or pitch-black; antennal base, mouth-parts and legs reddish-yellow.

The head is rather densely and robustly punctated; pronotum somewhat narrower than elytra, with slightly rounded sides and not entirely rounded-off, but noticeable, obtuse hind corners, rather coarsely and densely punctated, and at each side with a fovea at middle of the flatly set off

side-margin; elytra amply $1\frac{1}{2}$ times as long as pronotum, coarsely and rather densely punctated; abdomen not punctated. L. 3.5-4 mm.

Middle and North Europe; in this country as a whole rare, especially in Jutland; on moist forest-, marsh- and meadow-ground. The larva is found in Lyngby marsh and Greelskov and reared (4. 95, Nystrøm and Rosenberg).



107. Genus Lathrimaeum Er.

(Erichs. Käf. Mk. Br. I, 624; Gen. Spec. Staph. 868; Kraatz Ins. D. II, 943; Thoms. Skand. Col. III, 195; Rey Brévip. 1880, 119; Ganglb. Käf. M. II, 721).

From Olophrum, which Lathrimaeum mainly resembles in the short, broad and posteriorly broadened form of the body, in the structure of antennae and maxillary palpi, in the sculpture of pronotum, elytra and abdomen, also in the structure of tarsi, it is separated by the following deviations:

The head is constricted behind, and the forehead before the ocelli of the vertex, with two oblique, distinct impressions, and two smaller ones between antennal base; the antennae are distinctly, though feebly thickened distally; pronotal hind corners obtuse, their slightly upturned, in their full length impressed set off, margined side-rims with a fovea at middle; elytra are most often still longer than in Olophrum, and occasionally covers almost the entire abdomen; middle and hind tibiae are singly and finely spiniferous.

Of those in North and Middle Europe found 4 species, which live on damp or semi-damp ground, 3 are denoted also in this country, the fourth may possibly yet be found and is therefore included in the following.

Key to Species.

1. Pronotal anterior margin rather strongly arcuately produced. L. 3.5
-4 mm.....1. L. melanocephalum Ill.
- Pronotal anterior margin very flatly produced..... 2.

2. Elytra $2\frac{1}{2}$ times as long as pronotum. The head in mature animals black, the rest of the body most often brownish. L. 3 mm.....
..... 2. L. atrocephalum Gyllh.
- Elytra twice as long as pronotum. Head reddish-yellow or darkly brown, unicolorous with the rest of the body.....3.
3. Elytra rather convex, densely punctated. Head reddish-yellow. L. 3.5 mm.....3. L. unicolor Marsh.
- Elytra flat, very densely punctated. Head darkly brown. L. 2.5 mm.
..... 4. L. fuscum Er.

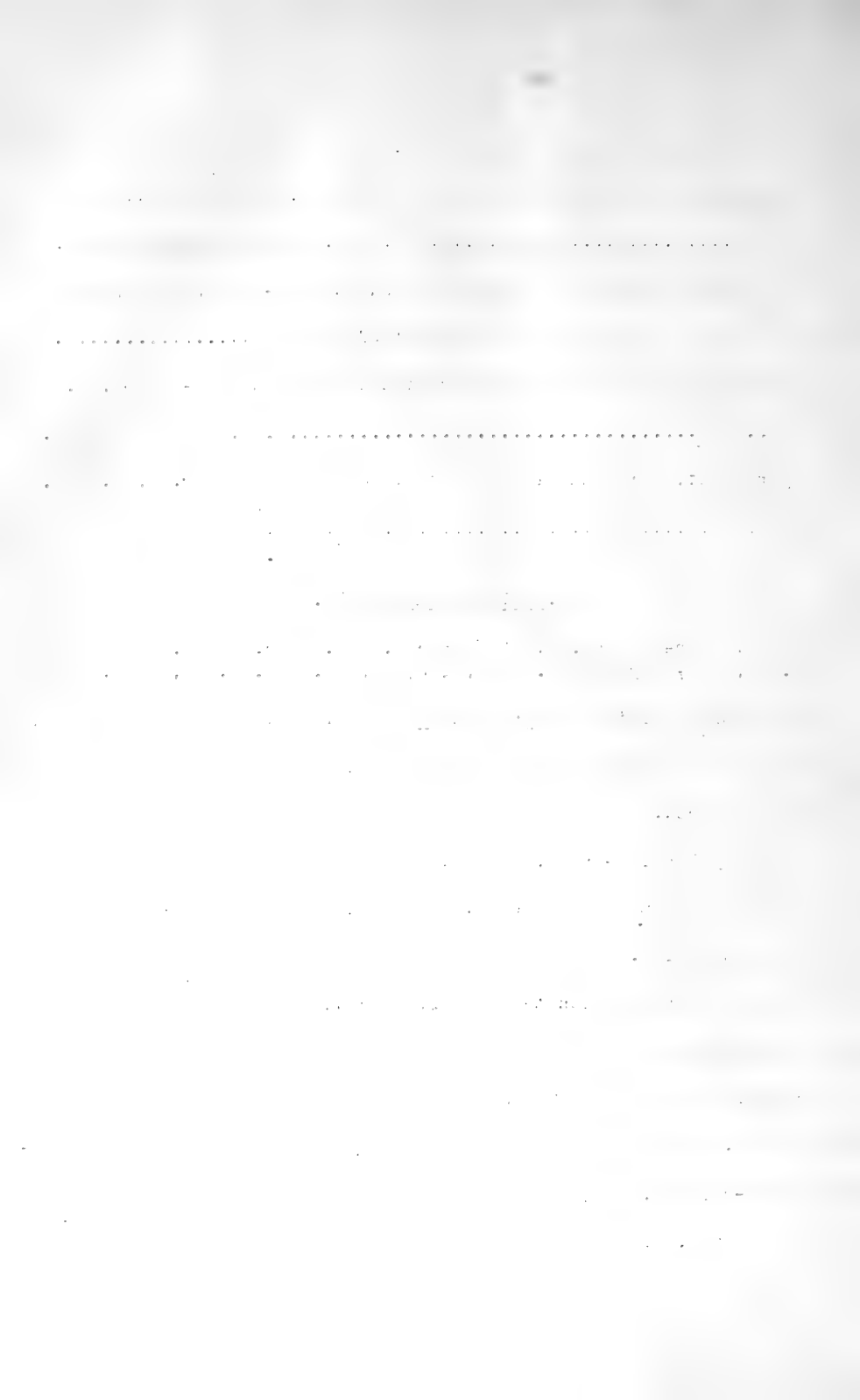
1. L. melanocephalum Ill.

(Illig. Schneid. Mag. V, 596; Erichs. Jen. Spec. Staph. 869; Kraatz Ins. D. II, 944; Rey Brévip. 1880, 125; Ganglb. Käf. M. II, 722).

Very closely allied to atrocephalum, and like this with black head, but considerably larger and broader and pronotal anterior margin more strongly produced.

Reddish yellowish-brown, somewhat glistening, naked; head black, often with slight metallic reflection; antennal base, mouth-parts and legs reddish-yellow.

The head is proportionately small, punctation and impressions same as in atrocephalum, -----(Page 595) ----- but impressions on forehead above broader; pronotum twice as broad as long, narrower than elytra, with broadly and rather greatly produced fore-margin, prominent fore-corners, slightly rounded sides, and rectangular hind corners, slightly convex, with rather dense and coarse punctation, at middle-line



slightly grooved, posteriorly most often with a feeble transversal impression at middle; elytra same as in the following species, but more regularly rowed-punctated and between the rows with rows of finer punctures; abdomen extremely finely punctated. L. 3.5-4 mm. (accd. to Ganglb. and Kraatz).

Distributed in Middle Europe and also found in Sweden and Norway. Heretofore not discovered in Denmark; but its occurrence here is not improbable.

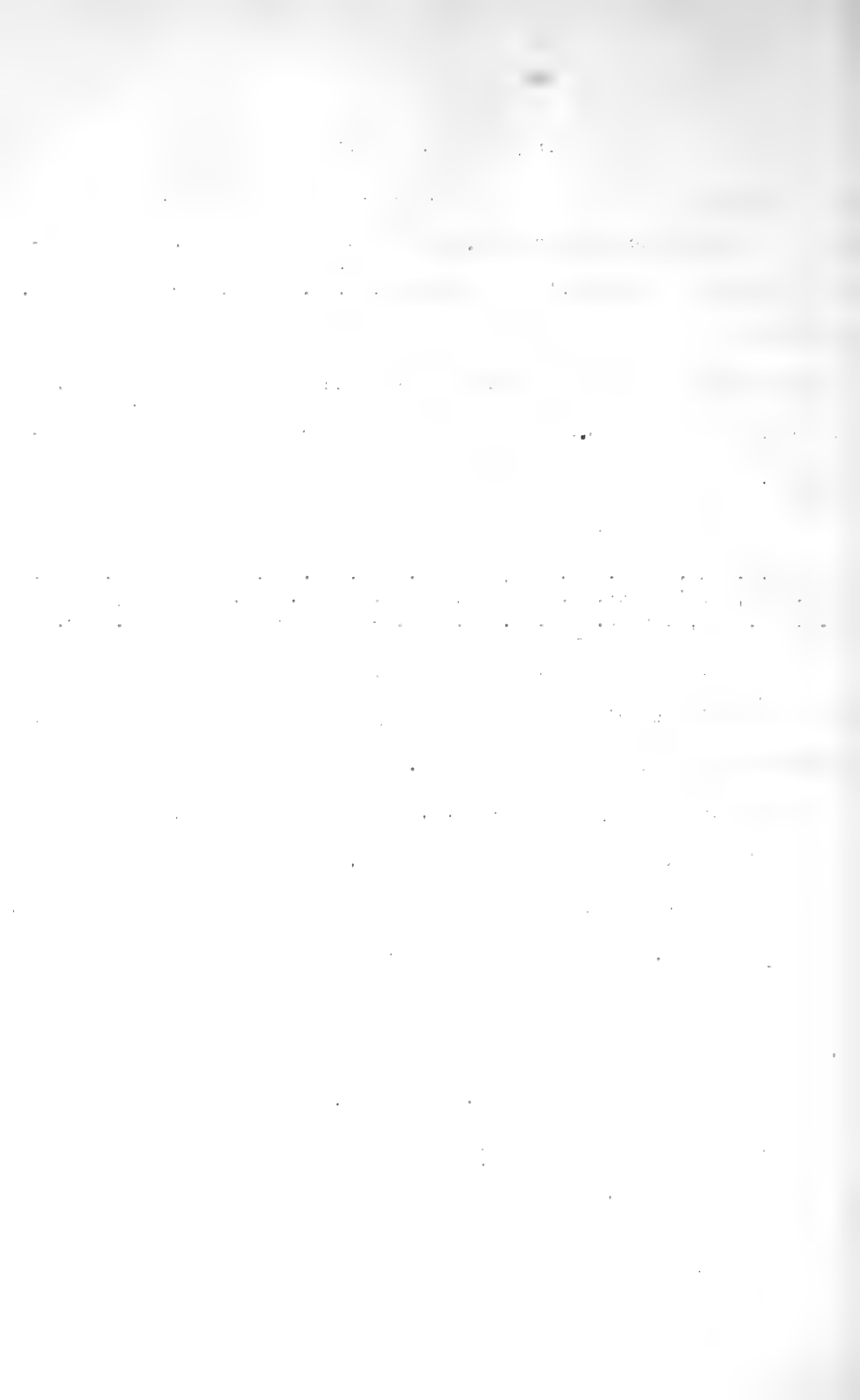
2. L. atrocephalum Gyllh.

(Gyllh. Ins. Suec. IV, 463; Erichs. Käf. Mk. Er. I, 625; Gen. Spec. Staph. 870; Kraatz Ins. D. II, 964; Thoms. Skand. Col. III, 195; Rey Brévip. 1880, 128; Ganglb. Käf. M. II, 722. - melanocephalum Matsh. nec. Illig.).

Our most common species, somewhat varying in color, but in relation to the following species ordinarily easily identified by that to the lighter colored body contrasting black head.

Lighter or darker yellowish-brown, somewhat glistening, naked; head black or in yet teneral animals pitch-brown; antennal base, mouth-parts and legs reddish-yellow. Entirely black specimens (v. nigrum) may occur.

The body (Fig. 178) is short, broad and slightly convex; the head much narrower than pronotum, anteriorly nearly smooth or simple punctation, with two flat impressions inside antennal base, posteriorly more robust and rather densely punctated, and with an oblique impression on each side of forehead before the small ocelli, antennae fully as long as head and pronotum together, distinctly thickened distally, their middle joints rather slender, the next-last about as broad as long; pronotum twice as



broad as long, narrower than elytra, with almost linear or only feebly emargined fore-margin, not rounded-off fore-corners, slightly rounded sides, and rounded-off-obtuseangular hind corners, its dorsum somewhat convex and with upturned, set off side-margins, densely and rather coarsely punctated, in middle-line most often distinctly grooved, back of the groove with two oblique, often nearly obliterated impressions, and with a fovea at middle of side-margin. Elytra are $2\frac{1}{2}$ times as long as pronotum, rather convex, posteriorly only feebly broadened, rather densely, coarsely and more or less regularly rowed-punctated; the uncovered abdominal tip with especially fine and rather isolated punctation. L. 3 mm.

Distributed everywhere in North and Middle Europe, and common in

this country, on damp or semidamp ground under the plant-cover, at decayed plants, in alluvium, also at fungi; v. nigrum is found in N. Sjaelland at Brede (S. 76 Koch, 1 specimen).

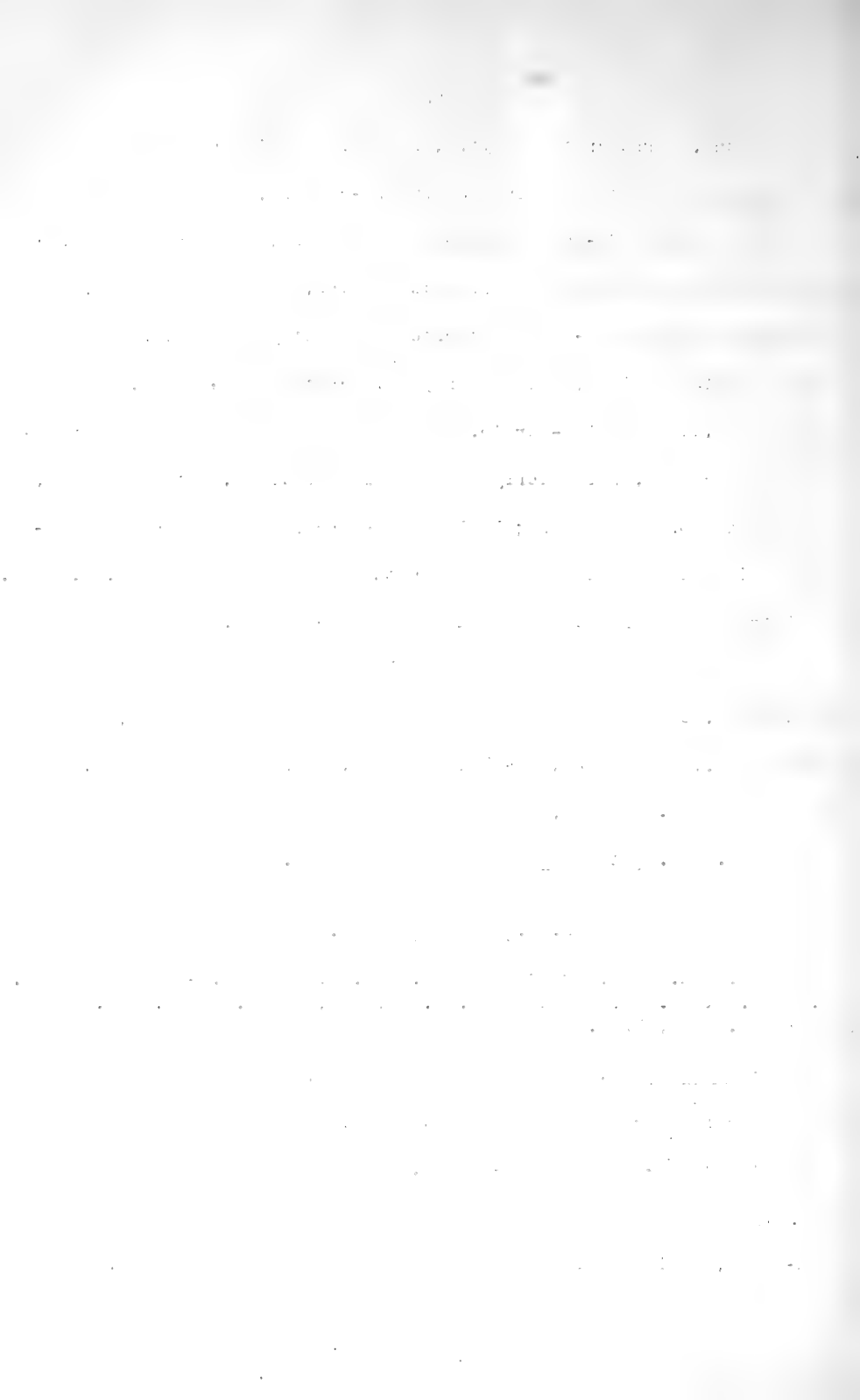
Fig. 178. Lathrimaeum atrocephalum Gyllh.

3. L. unicolor Marsh.

(Marsh. Ent. Brit. I, 127; Ganglb. Käf. M. II, 722. - luteum Erichs. Gen. Spec. Staph. 869; Kraatz Ins. D. II, 945; Thoms. Skand. Col. IX, 315; Rey Brévip. 1880, 122).

From atrocephalum, which it much resembles, it is most often separated by the color together with other details.

Light reddish- or brownish-yellow, somewhat glistening and naked; the head only a little darker than the rest of the body; antennae toward tip pitch-brown, their base, also the legs reddish-yellow or yellow.



Ordinarily it is somewhat larger and broader than atrocephalum, and posteriorly more broadened, but across the elytra more flattish convex; impressions of the head before the ocelli on vertex are broader, antennae longer, pronotal hind corners sharper, its middle-groove and impressions behind this feebler, often entirely obliterated; elytra shorter, twice as long as pronotum, posteriorly distinctly broadened, their punctation only indistinctly rowed. L. 3.5 mm.

Distributed in Middle and North Europe, but more local and far less frequent than the preceding species; in this country mainly found in the islands on damp forest and marshy ground.

4. L. fuscum Er.

(Erichs. Käf. Mk. Br. I, 626; Gen. Spec. Staph. 870; Kraatz Ins. D. II, 947; Rey Brévip. 1880, 131; Ganglb. Käf. M. II, 722).

Smaller, flatter and narrower than atrocephalum and with shorter, more densely punctated elytra.

Pitch-brown or pitch-black, dully glistening, naked; sides of pronotum and the elytra brown; antennae most often entirely pitch-brown, their basal joint sometimes reddish; legs brownish yellow.

The head is densely, distinctly more densely punctated than in atrocephalum, its impressions, especially the foremost ones, most often deeper than in same, antennae shorter and their middle joints less slender; pronotum somewhat narrower than elytra, hardly twice as broad as long, with rather broadly opturned sides and almost rounded off hind corners, flatly convex, with rather robust, dense punctation, in middle-line most often finely grooved, and behind the groove with two distinct, oblique



impressions, and with one strong impression at middle of side-margins. Elytra are twice as long as pronotum, very flatly convex, posteriorly broadened, rather robust and very dense punctation, the punctures sometimes indistinctly rowed; abdomen with extremely fine, scattered punctation. L. 2.5 mm.

Distributed in Middle Europe. In Denmark very rare, and as far as known heretofore only found in sandy regions of the peninsula (Hvorup sandhills north of N. Sundby: 9. 1892, 10. 1893. Author), Sønderborg ("ustnei)).

(Page 597)

108. Genus Deliphrum Er.

(Erichs. Käf. Mk. Br. I, 627; Gen. Spec. Staph. 872; Kraatz Ins. D. II, 951; Thoms. Skand. Col. III, 197; Rey Brévip. 1880, 110; Ganglb. Käf. M. II, 723).

The body rather broad and flat, in form most like Omalium; the head small, behind the distinct ocelli with a sharp, impressed transversal groove, in front of ocelli with two oblique grooves or foveae, and with a flat impression on each side anteriorly between base of antennae. Antennae not strongly, (in our species) yet distinctly thickened distally, last joint of maxillary palpi twice as long as the next-last.

Pronotum transverse-square, with slightly rounded, posteriorly double margined sides and between the margins with a gutter-shaped groove, which shortly before the middle ends in a small, however most often distinct fovea. The elytra are much longer than pronotum; abdomen narrowly margined; tibiae robustly spiniferous, first two joints of hind tarsi are of equal length, longer than the two following, the claw-joint distinct-

ly shorter than the first four joints together.

The species live under leaves and moss on the forest ground, in fungi and at outflowing treesap. Of 3 known European species 1 is found in this country.

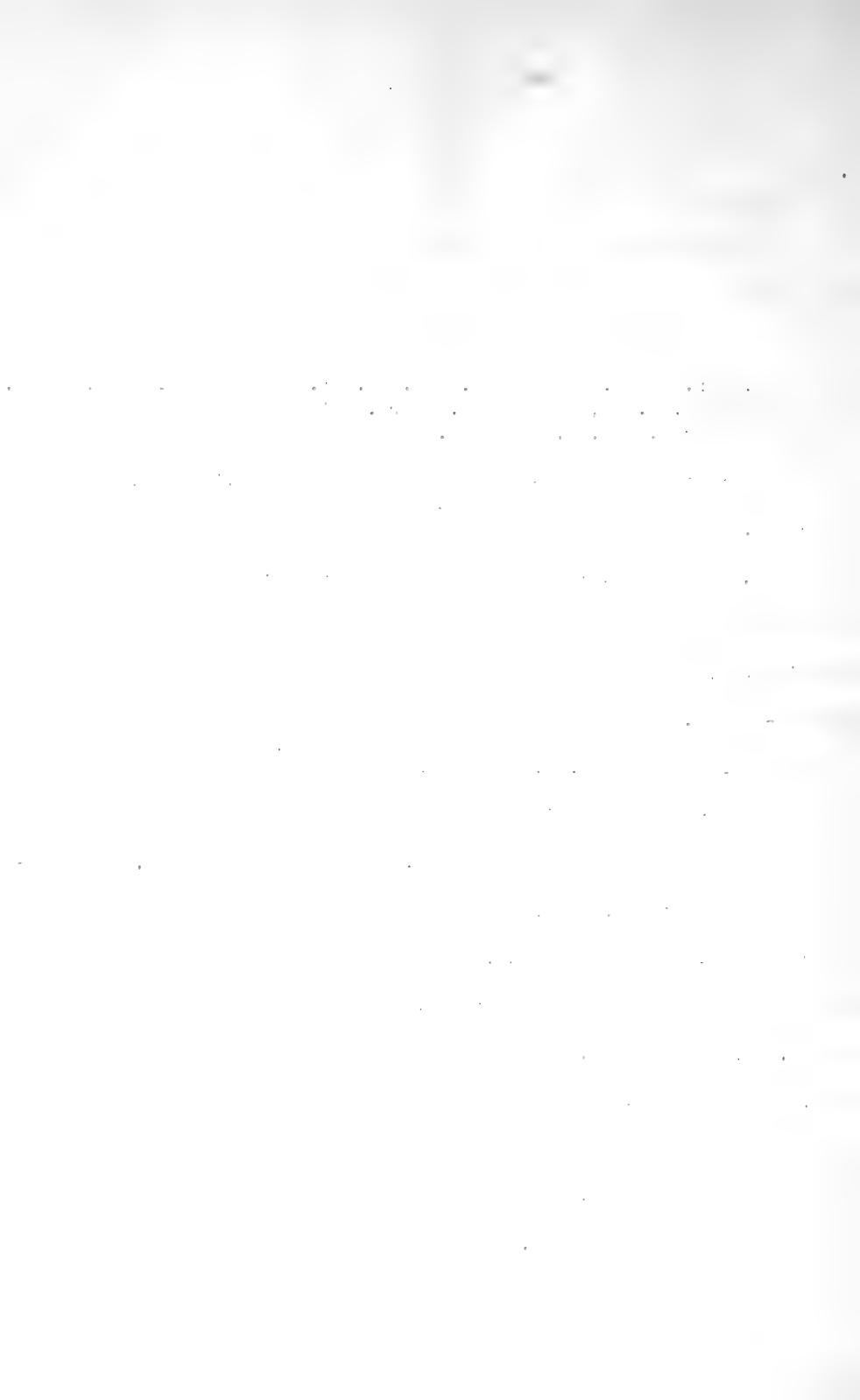
1. D. tectum Payk.

(Payk. Mon. Staph. 68; Erichs. Käf. Mk. Br. I, 627; Gen. Spec. Staph. 872; Kraatz Ins. D. II, 952; Thoms. Skand. Col. III, 197; Rey Brévip. 1880, 117; Ganglb. Käf. M. II, 723).

Together with the genus-characters inter alia easily identified by the color.

Black, glistening, scarcely haired; head and pronotum most often with feeble metallic reflection; pronotal sides and posterior margin brownish red; elytra yellowish-brown; base of antennae and the legs reddish-yellow.

Head short and broad, with very short temples, anteriorly almost smooth, posteriorly with fine and scattered punctation and with the above mentioned grooves and impressions, antennae rather short, distinctly thickened distally, their next-last joints somewhat broader than long; pronotum twice as broad as long, posteriorly not much narrower than the elytra, with rounded off hind corners, anteriorly slightly roundly narrowing, slightly convex, with denser and more robust punctation than the head, finely grooved in middle-line, side-margin before the middle with a punctiformis fovea and from back of this to hind-corner with a gutter-shaped impressed groove. Elytra more than $1\frac{1}{2}$ times as long as pronotum, feebly broadened posteriorly, very densely and rather finely, here and



there rowed-punctated; abdomen with very fine, scattered punctation.

L. 3-3.5 mm.

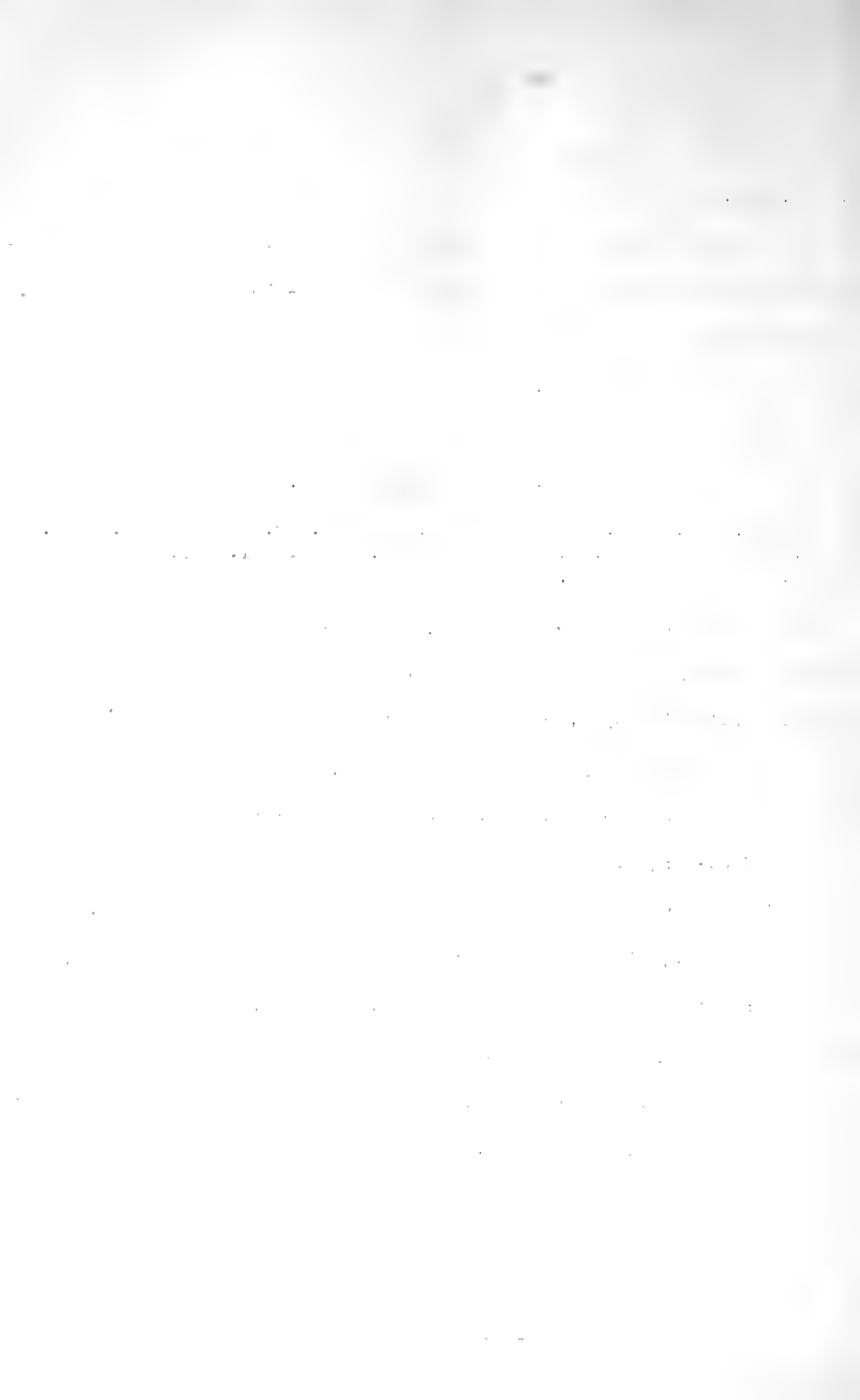
Distributed throughout Middle and North Europe. In this country heretofore only found singly in Tisvilde Hegn on sap-flowing tree stubs (25. 5. 1890 1 specimen and 18. 6. 1896 1 specimen Løvendal). In Skaane it is also found in manure (Thoms.).

109. Genus Acidota Steph.

(Steph. Ill. Brit. V, 357; Erichs. Käf. Mk. Br. I, 620; Gen. Spec. Staph. 860; Kraatz Ins. D. II, 935; Thoms. Skand. Col. III, 203; Rey Brévip. 1880, 101; Ganglb. Käf. M. II, 716).

The body is elongate of rather equal breadth and flat or flattish convex, scarcely haired; head in proportion to pronotum small, with round, strongly protruding eyes, only feebly developed temples, transversally grooved or transversally impressed vertex, distinct ocelli, with or without distinct impressions on forehead, and with entire or only at sides upturned fore-margin, antennae nearly moniliform, quite robust, last joint of maxillary palpi more than twice as long as the next-last.

Pronotum slightly convex, as broad or nearly as broad as elytra, hardly narrowing posteriorly, with slightly rounded, margined sides and with a fovea at middle of the narrowly upturned side-margin; elytra with striped punctation, longer than pronotum, with parallel sides and rounded off hind corners; abdomen as broad as elytra, with broadly upturned sidemargins and with more robust punctation than in any other closely allied genus; legs rather sturdy, tibiae more or less finely spiniferous.



first two joints of hind tarsi somewhat elongate, the first longer than the second, the claw-joint shorter than the first four joints together.

The 2 Middle and North European species, which also are found in this country, live on damp forest ground, in marshes and fens under the plant cover, where their larvae also are found.

Key to Species.

1. Anterior margin of forehead in its entirety equally strongly offset and upturned. L. 6-7 mm..... 1. A. crenata Fabr.
- Anterior margin of forehead not upturned at middle. L. 4.5-5 mm...
..... 2. A. cruentata Mannh.

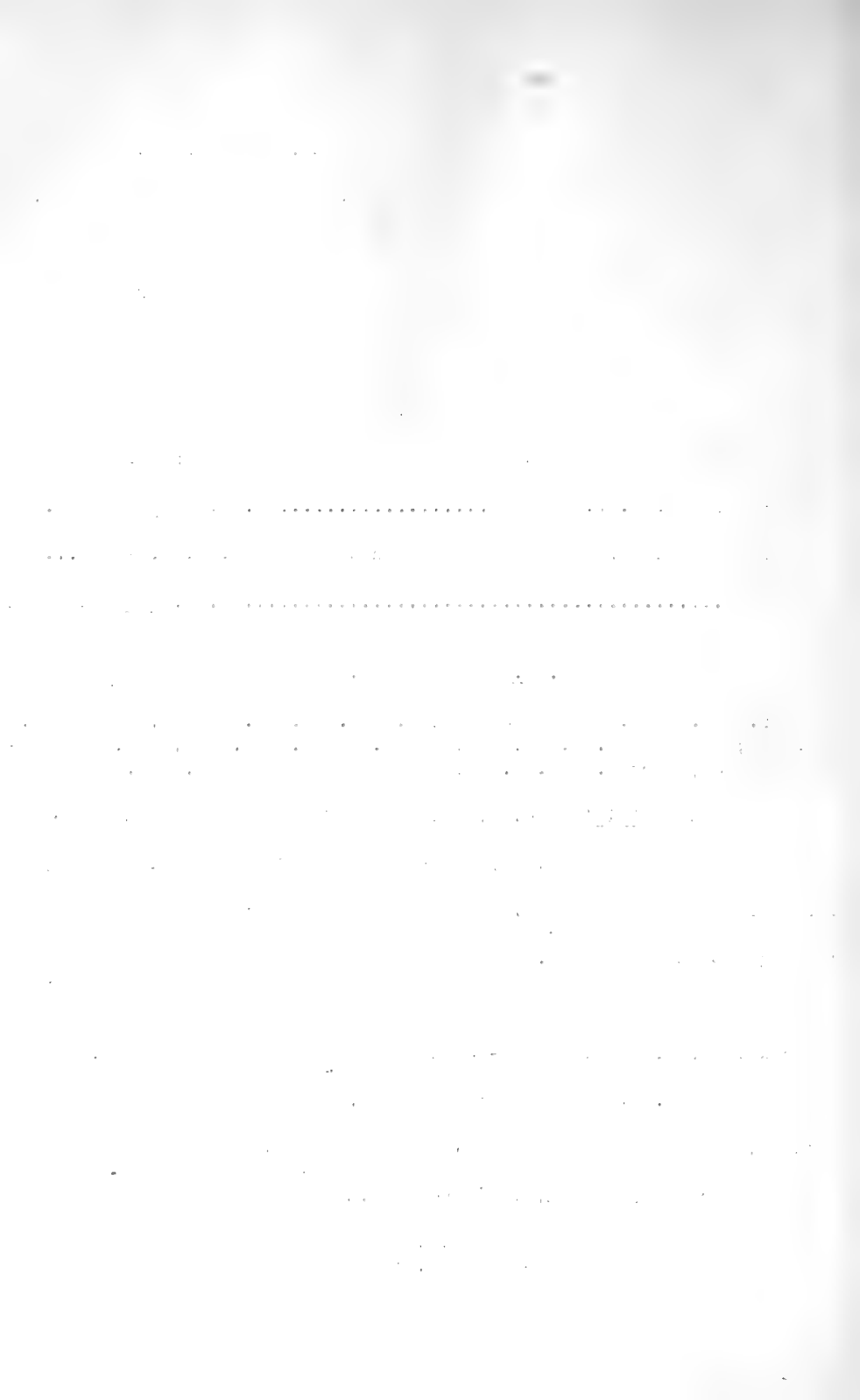
1. A. crenata Fabr.

(Fabr. Ent. Syst. I, 2, 525; Erichs. Käf. Mk. Br. I, 620; Gen. Spec. Staph. 861; Kraatz Ins. D. II, 936; Thoms. Skand. Col. III, 204; Rey Brévip. 1880, 104; Ganglb. Käf. M. II, 717. - castanea Gravh. Mon. 207)

Our largest Omaliini species, elongate, of equal breadth and flatly convex, recognized inter alia by the punctation of elytra and abdomen, and in relation to the following species by the entirely upturned anterior margin of the forehead.

Lighter or darker chestnut brown, rather glistening, naked; antennae, mouth and legs, often also side-margins of pronotum yellowish-red.

The head (Fig. 179) is remarkably small, densely and rather robustly punctated, forehead between the rather large, strongly protruding eyes smooth, without impressions, its fore-margin in its entire breadth by an impressed groove thickly set off and upturned, antennae rather long and



not thickened distally; pronotum as long as broad and about as broad as elytra, ----- (Page 599) ----- anteriorly a little more narrowing than posteriorly, with slightly rounded sides, feebly convex, robustly and rather densely punctated, with a slight fovea at middle of the rather strongly set off and margined side-rim, but elsewhere without impressions, posteriorly often with a smooth spot in middle-line. Elytra are $1\frac{1}{2}$ times as long as pronotum, on sides and at tip coarsely and irregularly punctated, elsewhere on dorsum with regular feebly grooved or rowed punctation; abdomen evenly broad, rather densely and peculiarly robustly punctated. L. 6-7 mm.

Distributed in Middle and North Europe. Rather rare in Denmark, on moist forest or marshy ground, where the larva, which (accd. to Beling, see Ganglb.) eats fly-larvae, apparently also can be found.

Fig. 179. Acidota crenata Fabr.

2. A. cruentata Mannh.

(Mannh. Brach. 55; Erichs. Käf. Mk. Br. I, 621; Gen. Spec. Staph. 862; Kraatz Ins. D. II, 937; Rey Brévip. 1880, 107; Ganglb. Käf. M. II, 717. - rufa Gyllh. Ins. Suec. II, 228; Thoms. Skand. Col. III, 204).

Smaller than the preceding species, and most often less evenly broad, but flatter, otherwise identifiable by lighter color, and flat anterior margin of forehead etc.

Reddish-yellow or yellowish-red, rather glistening, naked.

The head is rather small, with robust and dense punctation, with more or less uneven forehead, and most often two distinct impressions before the ocelli, anterior margin of forehead flat, antennae shorter and some-

what more robust than in crenata, their middle joints less elongate; pronotum hardly as broad as elytra, and shorter than in crenata, $1\frac{1}{2}$ times as broad as long, with evenly and slightly rounded, narrowly set off margined and bounded sides, flatly convex, coarsely and densely punctated, with two flat, most often distinct longitudinal impressions at middle, and with a fovea at middle of side-margins, in middle-line between impressions smooth. Elytra most often $1\frac{1}{2}$ times as long as pronotum, punctation about same as in crenata, but the punctures less regularly row-formed; abdomen often somewhat broader than elytra, and with rounded sides, with dense and rather fine, less robust punctation than in crenata. L. 4.5-5 mm.

Distributed in Middle and North Europe; in this country more local than the preceding species, but where it is found, oftenest more numerous. - The larva was found in a tindery beech-stub in Jeelskov north of Copenhagen and reared (9-22. 5. 1895, Rosenberg).

110. Genus Arpedium Er.

(Erichs. Käf. Mk. Br. I, 618; Gen. Spec. Staph. 858; Kraatz Ins. D. II, 957; Thoms. Skand. Col. III, 188; Rey Brévip. 1880, 144; Ganglb. Käf. M. II, 717).

Body rather flat, more or less broad or elongate, naked or finely haired, sometimes wingless; head narrower than pronotum, slightly constricted behind, with short, rounded temples, slightly protruding eyes, distinct ocelli on the vertex and in front of these with two small foveae or impressed lines, two feeble impressions between base of antennae, and

with not margined anterior rim, antennae almost filiform and rather long, longer and finer than in Acidota, last joint of maxillary palpi very little longer than the next-last.

Pronotum as broad as or a little broader than long, as broad as or narrower than elytra, and with a foveate impression at middle of side-margins, which posteriorly are sometimes flatly impressed-set-off; elytra broadened posteriorly, sometimes considerably longer than, and again only as long as pronotum, their outer hind corners rounded off; abdomen more or less broad, sometimes elongate, its sides narrower or broader upturned set off; the middle- and hind-tibiae sometimes finely spiniferous, first two joints of hind tarsi somewhat elongate and the first noticeably longer than the second, the claw-joint shorter than the four first joints together. In the ♂ the fore-tibiae are on inner side a little below the middle dilated in form of a small, obtuse tooth.

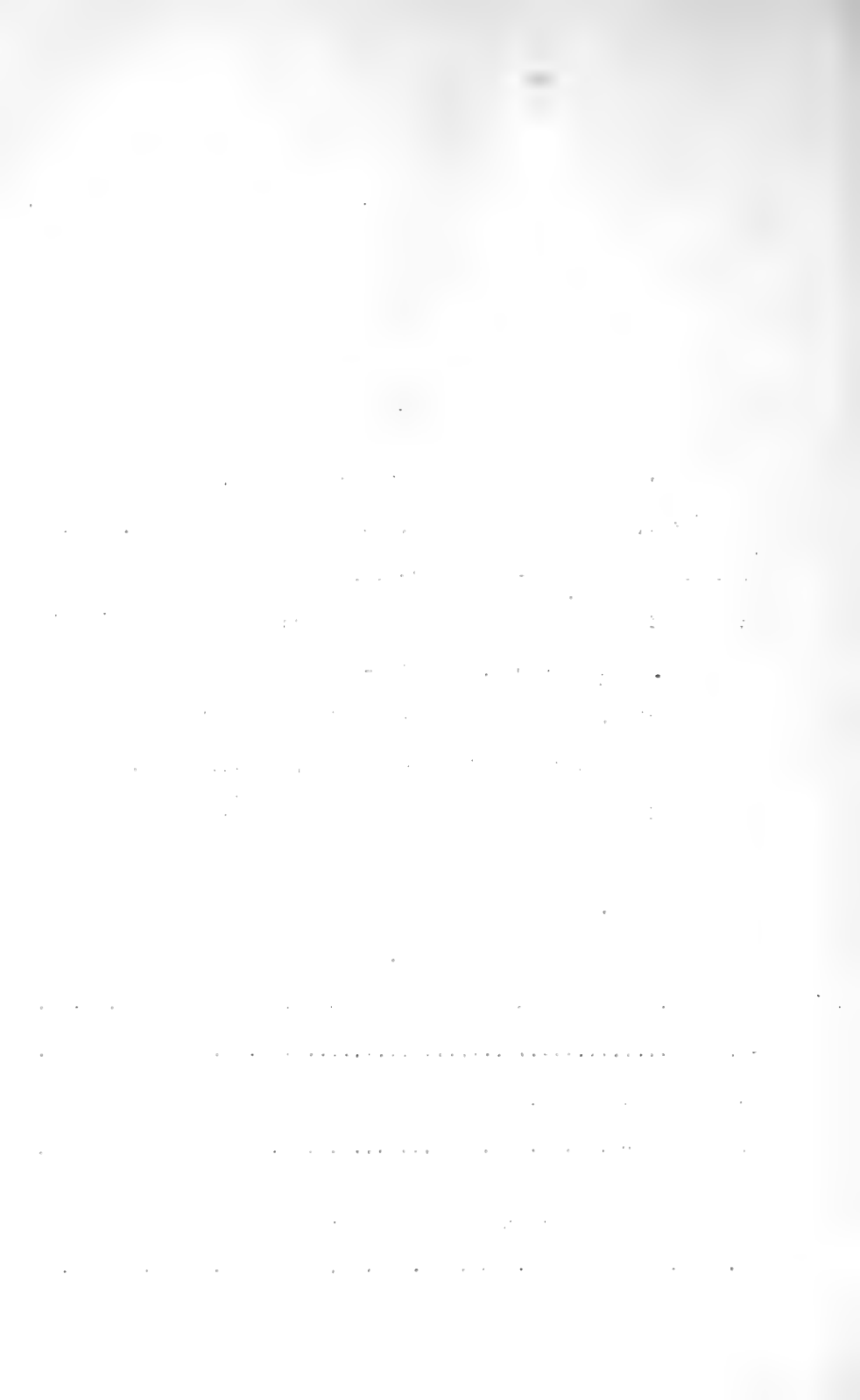
The species live in alluvium, under stones and moss at edges of water; of 4 European species 2 are distributed in North and Middle Europe, and also found in Denmark.

Key to Species.

1. Thorax naked. Abdomen indistinctly punctated, almost smooth. L. 4.5-5.5 mm..... 1. A. quadrum Gravh.
- Thorax and abdomen finely haired; the latter rather finely and densely punctated. L. 3.5-4.5 mm..... 2. A. brachypterum Gravh.

1. A. quadrum Gravh.

(Gravh. Mon. 213; Erichs. Käf. Mk. Br. I, 858; Gen. Spec. Staph. 858;



Kraatz Ins. D. II, 958; Thoms. Skand. Col. III, 189; Rey Brévip. 1880, 147; Ganglb. Käf. M. II, 718).

A rather flat and broad, posteriorly broadened, winged species, in relation to the following inter alia easily identified by the form and longer elytra etc. (Fig. 180).

Black or brownish-black, glistening; the thorax naked, abdomen finely and sparsely haired; pronotum and elytra most often reddish-brown, more rarely blackish-brown with lighter margins, sometimes entirely yellowish-brown; antennae, mouth-parts and legs reddish-yellow.

The head (see above) with scattered and uneven, rather coarse punctation, its grooves before the ocelli of vertex deep, interval between grooves often foveate, impressions across base of antennae strong, antennae long and slender, -----(Page 601)----- all their joints longer than broad. Pronotum is somewhat narrower than elytra and hardly broader than long, with anteriorly rounded, posteriorly more linear sides and with rounded off corners, dorsum slightly convex, coarsely and somewhat unevenly punctated with a few scattered, smooth places, on sides before middle foveiform impressed, and side-margin from the fovea to hind corner narrowly set off. The elytra are approximately twice as long as pronotum, distinctly broadened posteriorly, with coarse and rather dense, at middle and nearest the suture row-formed punctation; abdomen broad with broadly set off, upturned side-margins, indistinct scattered punctation or nearly smooth. L. 4.5-5.5 mm.

Fig. 180. Arpedium quadrum Gravh.

In the ♂ the fore-tibiae on inner side about at middle with an obtuse

tooth, and the first four joints of fore-tarsi are rather strongly dilated.

At water edges in alluvium, local and in this country rare, but at times numerous in spots (at Esrom lake; Guldborgsund; Haderslev pond, Randers, Gravlev meadows and other places).

2. A. brachyterum Gravh.

(Gravh. Micropt. 114; Erichs. Gen. Spec. Staph. 859; Kraatz Ins. D. II, 959; Rey Brévip. 1880, 151; Ganglb. Käf. M. II, 718; Thoms. Skand. Col. III, 189 (ex parte). - v. troglydytes Kiesw. Stett. Ent. Zeitg. VIII, 1847, 77= brachypterum Hardy).

Rather narrow and of equal breadth, with more or less short elytra and as a rule wingless.

Pitch-black, finely haired, somewhat glistening; pronotum and elytra most often reddish-brown with lighter margins; antennae, mouth and legs reddish-yellow.

The head with simple and indistinct punctation, its grooves before the ocelli short, narrow and deep, and the impressions above antennal base flat, temples rounded, about as long as the eyes, antennae rather long and slender; pronotum as broad as elytra, a little broader than long, with smoothly rounded sides, gradually convex, with fine and scattered punctation, the surface especially finely shagreened and with a deep fovea at middle of side-margins, which back of this most often are slightly impressed. The elytra are much shorter than in quadrum, $1\frac{1}{2}$ or only $1\frac{1}{3}$ times (troglydytes Kiesw.) as long as pronotum, flat, rather densely and finely punctated, posteriorly only feebly broadened; abdomen of even breadth, finely and rather densely punctated. L. 3.5-4.5 mm.

Sex-characters of ♂ same as in the preceding species.

Distributed in North Europe, at the brim of fresh and salt waters; very rare in this country: singly in alluvium at the mouth of Lindholm's brook in Limfjorden west of N. Sundby (3. 1893 author), numerous at the eastern shore of Arresø under alluvium (4. 1911 Author).

111. Genus Micralymma Westw.

(Westw. Mag. Zool. Bot. II, 1838, 129; Erichs. Gen. Spec. Staph. 819; Schiødte, Kroyer Nat. Tidsskr. 1844-45, 374; Thoms. Skand. Col. III, 187; Rey Brévip. 1880, 4; Ganglb. Käf. M. II, 728).

Among the genera of Omaliini with proportionately long claw-joint of hind tarsi Micralymma is especially distinguished by very short elytra, which hardly reaches out over the metathorax, and is shorter than pronotum.

The body is flat, wingless, broadened posteriorly; the head porrect, only a little narrower than pronotum, with slightly protruding eyes, distinct temples, very small ocelli and slightly constricted vertex, antennae short, slightly thickened distally, the last joint of maxillary palpi about three times as long as the next-last.

Pronotum is anteriorly hardly as broad as elytra, narrowing posteriorly, with slightly rounded sides and obtuse hind corners, sides very finely margined, dorsum slightly convex, without impressions; elytra broadened posteriorly, flat; abdomen posteriorly broadened, with slightly rounded sides and with broadly upturned side-margins; legs rather short, tibiae very finely or not spiniferous, claw-joint of hind tarsi as long

THE JOURNAL OF THE

AMERICAN

PSYCHOLOGICAL ASSOCIATION

Published by the American Psychological Association

1911

Vol. 10, No. 1

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as the first four equally short joints together, claws robust.

The one European species lives on the sea-shore under seaweed and stones or in cracks of stones where it often is washed over by the tide waters.

1. M. marinum Strøm.

(Strøm Norsk, Selsk. Skrift, 1785, 1; Ganglb. Käf. M. II, 729. - brevipenne Gyllh. Ins. Suec. II, 234; Erichs. Gen. Spec. Staph. 420; Thoms. Skand. Col. III, 188; Rey Brévip. 1880, 6).

Black, finely haired, dully glistening; antennal base and legs pitch-brown.

The surface of the body very finely shagreened, the head's forehead foveae feeble, its dorsal side together with pronotum with fine and scattered punctation, the latter often smooth at middle-line; elytra with scattered, feeble scabrous punctation; abdomen with fine and scattered punctation. L. 2.5-3 mm.

In the ♂ the foremost dorsal abdominal joint at base with two distinct small fovea. (accd. to Ganglb. and Thoms.).

It is found at the coasts of northern France, England, Norway and western Sweden in company with Poduridae and Acaridae, in crevices of the rocks, under stones and seaweed. In Denmark it is heretofore not found but is not improbable that it may be discovered at the coast of the North Sea or in the yet hardly explored islands in Kattegat. - The larva is described by Laboulbene (Ann. Soc. Ent. France 1858). - J. Schiødt in Nat. Tidsskr. 1844-45 describes a Greenlandish species, M. brevilingue Schiø. The larva of this is found at the Museum at Copenhagen.



112. Genus Xylodromus Heer

(Heer Faun. Col. helv. I, 174; Rey Brévip. 1880, 158; Janglb. Käf. M. II, 729. - Etheothassa Thoms. Skand. Col. III, 206).

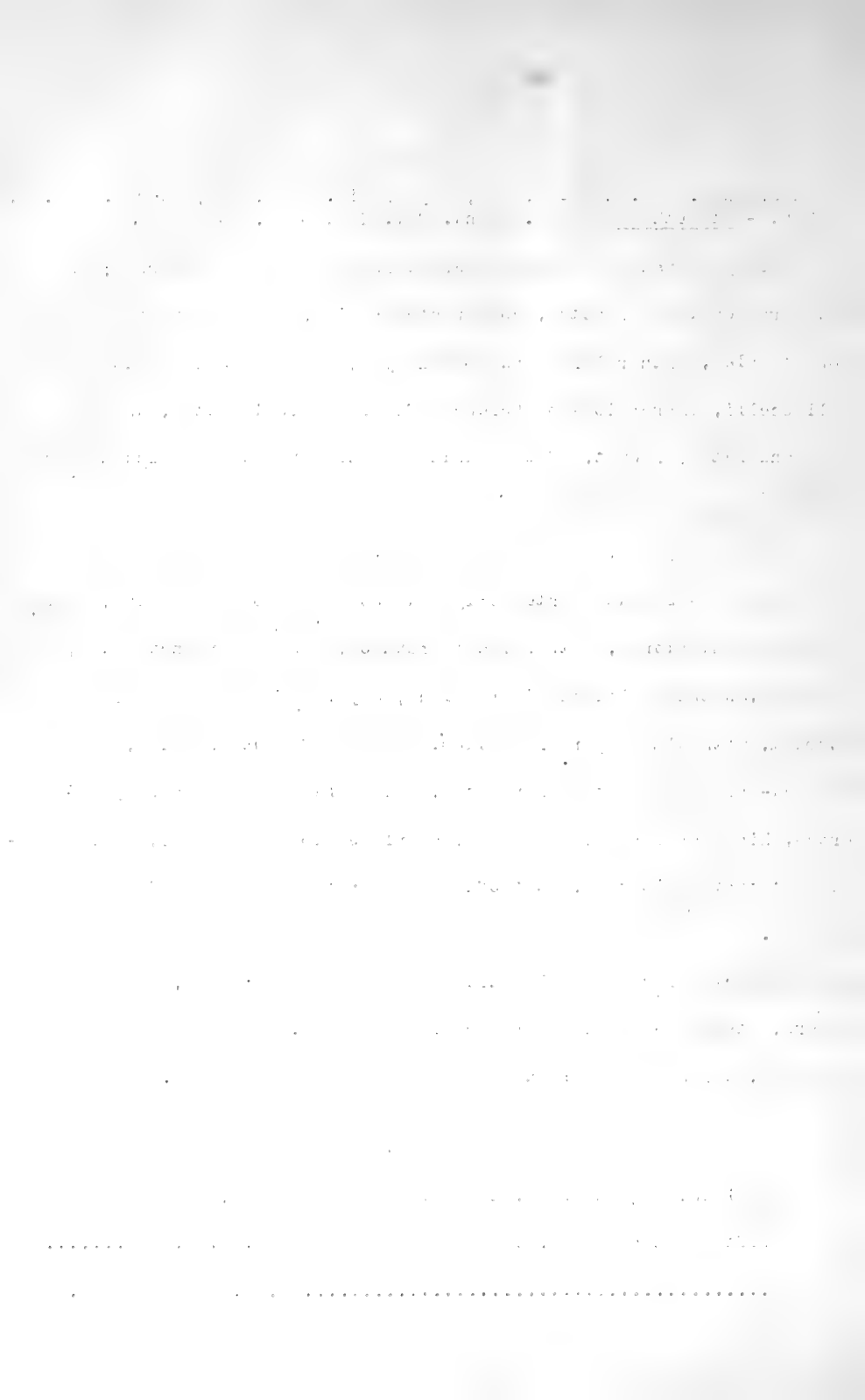
The body is rather flatly depressed and evenly broad, narrow; the head narrower than pronotum, constricted behind, with distinct, even though short temples, rather large and convex eyes, and the vertex with very small ocelli, impressions of forehead feeble or obliterated, antennae short and rather robust, of even thickness or very feebly thickened distally, distal joint of maxillary palpi much longer and not finer than the short third joint, gradually tapering.

Pronotum is broadest anteriorly and about as broad as elytra, feebly narrowing posteriorly, with slightly rounded, finely margined sides, slightly convex, without distinct impressions; elytra about twice as long as pronotum, with almost parallel sides; abdomen of equal breadth, upturned broad-margined; legs rather short, tibiae finely and sparsely spiniferous, hind tarsi rather elongate, nearly as long as tibiae, their claw-joint at most as long as, most often shorter than the first four joints together.

The species live in hollow trees and stubs, under bark, in affal in cellars, stables and outhouses, in old straw etc. In Denmark 3 species are found, which are distributed in Middle and North Europe.

Key to Species.

1. Antennal third joint fine, thinner than the second, the fourth and fifth distinctly narrower than the following. L. 2.5 mm.....
..... 1. X. testaceus Er.



- Antennae coarse, their third joint almost as thick as the second, the fourth and fifth scarcely narrower than the following....2.
- 2. Elytra very densely and finely punctated, the surface also very finely longitudinally aciculated and thereby dulled. L. 3-3.5 mm..
.....2. X. depressus Gravh.
- Elytra less densely and finely punctated, at middle or posteriorly feebly and irregularly longitudinally striped, glistening. L. 3. mm..... 3. X. concinnus Marsh.

1. X. testaceus Er.

(Erichs. Gen. Spec. Staph. 885; Kraatz Ins. D. II, 992; Thoms. Skand. Col. III, 207; Rey Brévip. 1880, 161; Ganglb. Käf. M. II, 730. - pygmaeus Gravh. Mon. 206).

Smaller than the two following species, and in relation to these furthermore easily identified by the antennal structure and by smaller head etc.

Very finely haired, somewhat glistening; The head in mature animals blackish-brown or black, and abdomen darkly brown; pronotum reddish-brown, its side-margins and elytra reddish brownish-yellow, a small spot around scutellum dark; antennae toward tip brownish-yellow, their base, also legs reddish-yellow.

The head is proportionately small, considerably narrower than pronotum, with large eyes and short, oblique temples, almost triangular, rather finely and densely punctated, upmost impressions of forehead before the ocelli obliterated and forehead here smooth, but between base of antennae with a slight impression, -----(Page 604)----- the antennae distinctly thickened distally, and of less even thickness than in the following spe-

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cies, their third joint much narrower than the second, the fourth small, rounded, the fifth somewhat larger, the following slightly increasingly transverse, distal joint ovals tapering; pronotum is narrower than elytra, slightly convex, rather finely and densely punctated, nearly smooth or with feeble traces of two very flat impressions posteriorly at middle; elytra almost twice as long as pronotum, a little more robustly, but less densely punctated than same, anteriorly often feebly longitudinally rugose; abdomen extremely feebly or indistinctly punctated, the surface especially finely shagreened and rather dull. L. 2.5 mm.

Distributed throughout Middle and North Europe, but everywhere, also in our country, rare or very rare. It is found under bark on trees and stumps in gnaw-crumblings and at fungi, also in hollow trees (Vicinity of Copenhagen; Killerup, Fyn: Haderslev; Lerbaek Forest and Vang Forest in Vendsyssel).

2. X. depressus Gravh.

(Gravh. Micr. 113; Ganglb. Käf. M. II, 730. - deplanatus Gyllh. Ins. Suec. II, 222; Erichs. Käf. Mk. Br. I, 635; Jen. Spec. Staph. 985; Kraatz Ins. D. II, 991; Thoms. Skand. Col. III, 206; Rey Brévip. 1880, 163).

Elongate, equally broad, rather narrow and flat, identified especially by the dense punctation and modified or dull shine of pronotum and elytra.

The body with exception of the head, which is naked and glistening, is very finely haired and dully glistening; head black, pronotum pitch-black with brownish margins; elytra brownish-red, around scutellum and at the margins often pitch-black; abdomen pitch-black; its side-margins and posterior margins of foremost joints often brownish; antennae, mouth, and legs yellowish-red.



The head is rather broad, yet a little narrower than pronotum, finely and rather densely punctated, forehead anteriorly with two nearly obliterated impressions, but is elsewhere smooth, antennae (Fig. 181) short, of about even thickness or only feebly thickened distally, their third joint almost as thick as the second, the fourth and fifth about as thick as, but more rounded than the transverse next-last joints; pronotum densely and finely punctated, smoothly convex, often with two merely suggested longitudinal impressions at middle posteriorly; elytra about twice as long as pronotum, finely and very densely punctated, the surface very finely and feebly longitudinally aciculated and thereby dull; abdomen with extremely fine punctation and the surface densely shagreened. L. 3-3.5 mm.

Distributed in Middle and North Europe. In this country rather common and often numerous in hollow trees, in refuse of old hay and straw and the like. In Sweden it is rare (Thoms.).

3. X. concinnus Marsh.

(Marsh. Ent. Brit. I, 510; Erichs. Jen. Spec. Staph. 886; Kraatz Ins. D. II, 991; Thoms. Skand. Col. III, 206; Rey Brévip. 1880, 167; Gangpb. Käf. M. II, 730).

Much like the preceding species, but ordinarily a little shorter, more glistening and with less densely punctated elytra than same.

Father strongly glistening; pronotum almost naked, abdomen finely haired; head black; pronotum brownish-black, most often with reddish-brown side-margins; elytra reddish-brown or darkly chestnut-brown, rarely entirely black; abdomen brownish-black, its side-margins and posterior margins of its joints often reddish-brown; antennae, mouth and legs yellowish-red.

The head is finely and not densely, less smoothly punctated than in depressus, fore-margin and forehead posteriorly before the ocelli almost smooth, antennae same as in depressus; pronotum a little shorter than in this, and less densely punctated; elytra likewise shorter, not twice as long as pronotum, finely and rather densely punctated, at middle and posteriorly finely and feebly, irregularly longitudinally striped. L. 3 mm.

Distributed like the preceding species; in this country however seemingly more local, most often found in refuse in stables, outhouses, cellars and bakeries, also in hollow trees and old straw, more rarely in fungi on trees. Rare in Sweden (Thoms.).

113. Genus Phloeostiba Thoms.

(Thoms. Skand. Col. III, 208; Rey Brévip. 1880, 171. - Phloeonomus Ganglb. (ex parte) Käf. M. II, 731).

The body is oblong, of even breadth, narrow and flat; the head broad and short, triangular-shape, constricted behind, with large, protruding eyes and very short, oblique temples, forehead broad and flat, vertex with distinct ocelli and two short, sharp forehead-grooves, at fore-margin with two feeble impressions, antennae rather short, their last six joints gradually thickened, last joint of maxillary palpi distinctly thinner and scarcely longer than the next-last.

Pronotum is broad, only a little narrower than elytra, posteriorly feebly narrowing, in middle-line feebly or indistinctly grooved, sometimes with two small bosses on fore-margin; elytra distinctly longer than pronotum, parallel; abdomen evenly broad with set off, rather broad, not

10. The first of these is the question of the *form* of the law.

The second is the question of the *content* of the law.

The third is the question of the *scope* of the law.

The fourth is the question of the *enforcement* of the law.

The fifth is the question of the *interpretation* of the law.

The sixth is the question of the *application* of the law.

The seventh is the question of the *modification* of the law.

The eighth is the question of the *abolition* of the law.

The ninth is the question of the *repeal* of the law.

The tenth is the question of the *revival* of the law.

The eleventh is the question of the *extension* of the law.

The twelfth is the question of the *restriction* of the law.

The thirteenth is the question of the *amendment* of the law.

The fourteenth is the question of the *repeal and revival* of the law.

The fifteenth is the question of the *extension and restriction* of the law.

The sixteenth is the question of the *amendment and repeal* of the law.

The seventeenth is the question of the *extension and amendment* of the law.

The eighteenth is the question of the *restriction and amendment* of the law.

The nineteenth is the question of the *extension and restriction* of the law.

The twentieth is the question of the *restriction and extension* of the law.

The twenty-first is the question of the *extension and amendment* of the law.

The twenty-second is the question of the *restriction and amendment* of the law.

The twenty-third is the question of the *extension and restriction* of the law.

The twenty-fourth is the question of the *restriction and extension* of the law.

The twenty-fifth is the question of the *extension and amendment* of the law.

The twenty-sixth is the question of the *restriction and amendment* of the law.

upturned side-margins; legs short, tibiae not spiniferous, tarsi short, their first four joints very short, and the claw-joint more than twice as long as these together.

The species live under the bark of insect-infested deciduous and pinaceous trees. In North and Middle Europe 2 species are distributed, but heretofore only one of these is found in Denmark.

1. Ph. plana Payk.

(Payk. Mon. Cure. App. 145; Erichs. Käf. Mk. Br. I, 636; Gen. Spec. Staph. 886; Kraatz Ins. D. II, 986; Thoms. Skand. Col. III, 208; Rey Brévip. 1880, 173; Ganglb. Käf. M. II, 732).

Recognized by the above stated genus-characters.

Black, rather glistening; thorax naked, abdomen sparsely and very finely haired; elytra most often pitch-brown, more rarely yellowish-brown with a dark spot around the scutellum; antennae dark toward tip, their first five joints, mouth-parts and legs yellowish-red.

The surface of thorax is finely reticulated; the head a little narrower than pronotum, with scattered and rather fine punctation, with two short, linear, deep forehead grooves, antennae short, their last six joints club-formed set off, and much more robust than the preceding, the sixth nearly as broad as the following four, and like these strongly transverse, the distal joint oval with set off tip. Pronotum a little narrower than elytra, approximately twice as broad as long, narrowing posteriorly, with slightly rounded, finely margined sides and obtuse angular hind corners, flatly convex, a little uneven, isolated and fine punctation, in the middle-line feebly grooved, the fore-margin with two distinct bosses and a

flat, foveiform impression inside each of these, side-margins behind middle narrowly set off. Elytra $1\frac{1}{2}$ times as long as pronotum, punctated as this; abdomen not distinctly punctated, but the surface is very densely shagreened. L. 2.5-3 mm.

Very rare; under bark, in wood-crumblings and at outflowing sap of trees. (Sorø, Naesbyholm; Odense; Haderslev, Lindum Forest south of Høbro).

Very closely allied to Ph. plana is lapponica Zett. (pineti Thoms. Omalium conforme Kr. and subtile Kr.). It is smaller and narrower, and most often of darker color, furthermore with much finer and more scattered punctation, the bosses on fore-margin of pronotum are not distinct. L. 2-2.5 mm. It is found in Skaane and Middle Europe under the bark of infested pinacious trees, especially fir, and may be encountered also in Denmark.

114. Genus Phloeonomus Heer.

(Heer Faun. Helv. I, 184; Thoms. Skand. Col. III, 210; Rey Brévip. 1880, 179; Ganglb. Käf. M. II, 731).

From the very closely allied preceding genus, with which Phloeonomus namely has this in common, that the distal joint of maxillary palpi is distinctly narrower than the next-last, and that the tarsal claw-joint is more than twice as the especially short first four joints together, - it is separated especially by, that pronotum (like in Omalium) has two deep or flat longitudinal impressions at middle, and a flat or nearly obliterated one on each side; grooves of the forehead before the ocelli are short, almost punctiformis, and the set off side-margins of abdomen more or less upturned.

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The species live under the bark of insect-infested pinaceous and deciduous trees. Of the few from Middle Europe and partly North Europe known species, one is rather common in Denmark.

1. Ph. pusillus Gravh.

(Gravh. Mon. 205; Erichs. Käf. Mk. Br. I, 631; Gen. Spec. Staph. 879; Kraatz Ins. D. II, 988; Thoms. Skand. Col. III, 210; Rey Brévip. 1880, 184; Ganglb. Käf. M. II, 732).

An Omalium-like, very small, flat, dull species, without distinct punctation, and in connection with the generic characters, thereby easily identified.

Brownish-black or brown; thorax dull, with feeble silky reflection, naked; abdomen somewhat glistening, extremely finely short haired; the head black; antennae, mouth-parts and legs reddish-yellow.

Head and pronotum are not punctated, but together with elytra in the surface very densely and finely shagreened; the head (Fig. 182) narrower than pronotum, somewhat triangularly shaped with large, prominent eyes, small ocelli on the vertex, and two very short, almost foveiform, but deep forehead-grooves before these, and two feeble, flat impressions anteriorly, antennae short, robust, their next¹/_{last} five joints increasingly transverse and together with the distal joint form a distally smoothly thickened club. Pronotum is somewhat narrower than elytra, narrowing posteriorly and with rectangular hind corners, at middle with two, posteriorly most often deep, oviform longitudinal impressions, and a flat impression on each side; elytra amply $1\frac{1}{2}$ times as long as pronotum, with flat, scattered and feeble, most often indistinct punctation; abdomen with



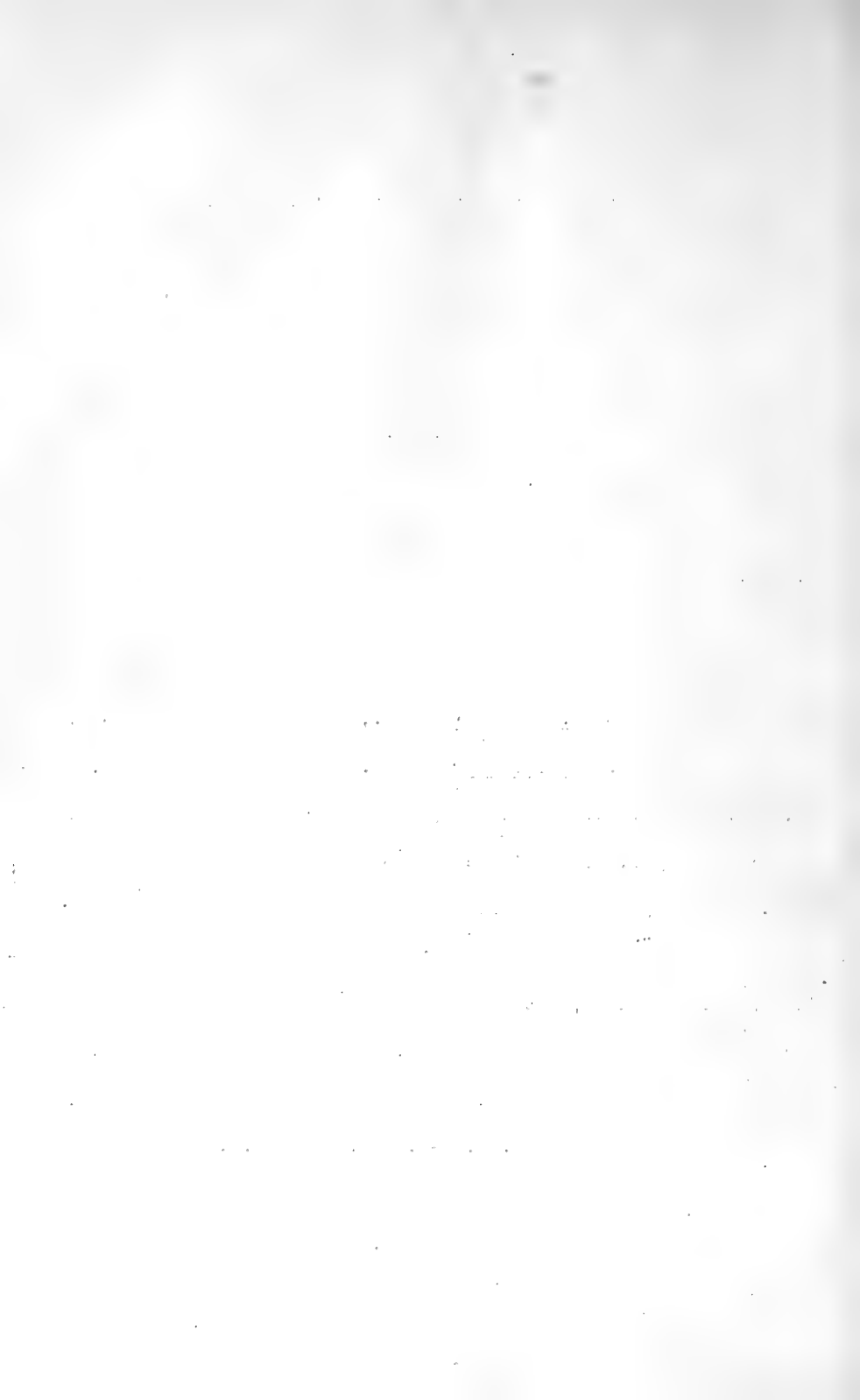
scattered and indistinct punctation, very densely shagreened, its side-margins upwardly bent. L. 2-2.5 mm. (Fig. 182. Phloeonomus pusillus Gravh.)

In wooded regions, not rare in this country, most frequent under the bark of pinacious trees, which are attacked by bark beetles, but also under the bark of deciduous trees and stubs, and at outflowing tree sap. - The larva lives in same places as the beetle and is (accd. to Ganglb.) described by Perris (Ann. Soc. Entom. Fr. 1853, 578, Pl. 17, Fig. 56-59).

A form of pusillus Gravh. with more distinct and densely punctated elytra is by Thomson treated as a separate species: Ph. punctipennis Thoms. Skand. Col. IX, 317. It occurs mostly under bark of infested deciduous trees, namely beech and birch, it deviates not essentially from the typical form.

Closely related to Ph. pusillus Gravh., but considerably larger, is Ph. (Xylodromus) Thoms.) monilicornis Gyllh. It is blackish-brown, glistering, scarcely haired, first five joints of antennae, mouth-parts, and the legs reddish-yellow, margins of pronotum and humeri of elytra often brownish. Distal joint of maxillary palpi is considerably thinner and three times as long as the next-last, antennal club sharply set off, proportionately long haired; pronotal longitudinal impressions flat, the head with simple and pronotum with scattered, rather robust punctation, elytra with more robust and rather dense punctation; abdomen almost smooth, its side-margins strongly upturned. L. 3-3.5 mm. (Ganglb.).

It is distributed in Middle Europe and is also found in Sweden and Norway, under the bark of pinacious trees. In Denmark it is heretofore not found.



115. Genus Omalium Gravh.

(Gravh. Micr. 111; Erichs. Käf. Mk. Br. I, 628; Gen. Spec. Staph. 874; Kraatz Ins. D. II, 974; Thoms. Skand. Col. III, 211; Rey Brévip. 1880, 189; Ganglb. Käf. M. II, 733).

The body is rather flat, broadest across the elytra, almost naked; the head narrower than pronotum, posteriorly neck-formed constricted with rounded off temples and rather large, protruding eyes, distinct ocelli on the vertex, two foveae or sharp, linear impressions before these, and two flatter ones anteriorly, antennae smoothly thickened distally, distal joint of maxillary palpi two-three times as long as the next-last and as thick as this, obtusely tapering.

Pronotum is narrower than elytra, broader than long, at middle with two, most often deep longitudinal impressions; elytra much longer than pronotum, not broadened posteriorly; abdomen with broad, upturned side-margins, and is posteriorly roundly tapering; mesothorax is finely carinated in middle-line; the legs rather short, tibiae, especially the middle ones, finely spiniferous, hind tarsi half as long as tibiae, their claw-joint a little longer than the first four joints together.

The species live under leaves, in alluvium and waste, under rotting plants, in fungi, at outflowing tree-sap and the like. About twenty species are found in Middle and North Europe, in our country heretofore only six, but a few others from North Europe have been included in the following.

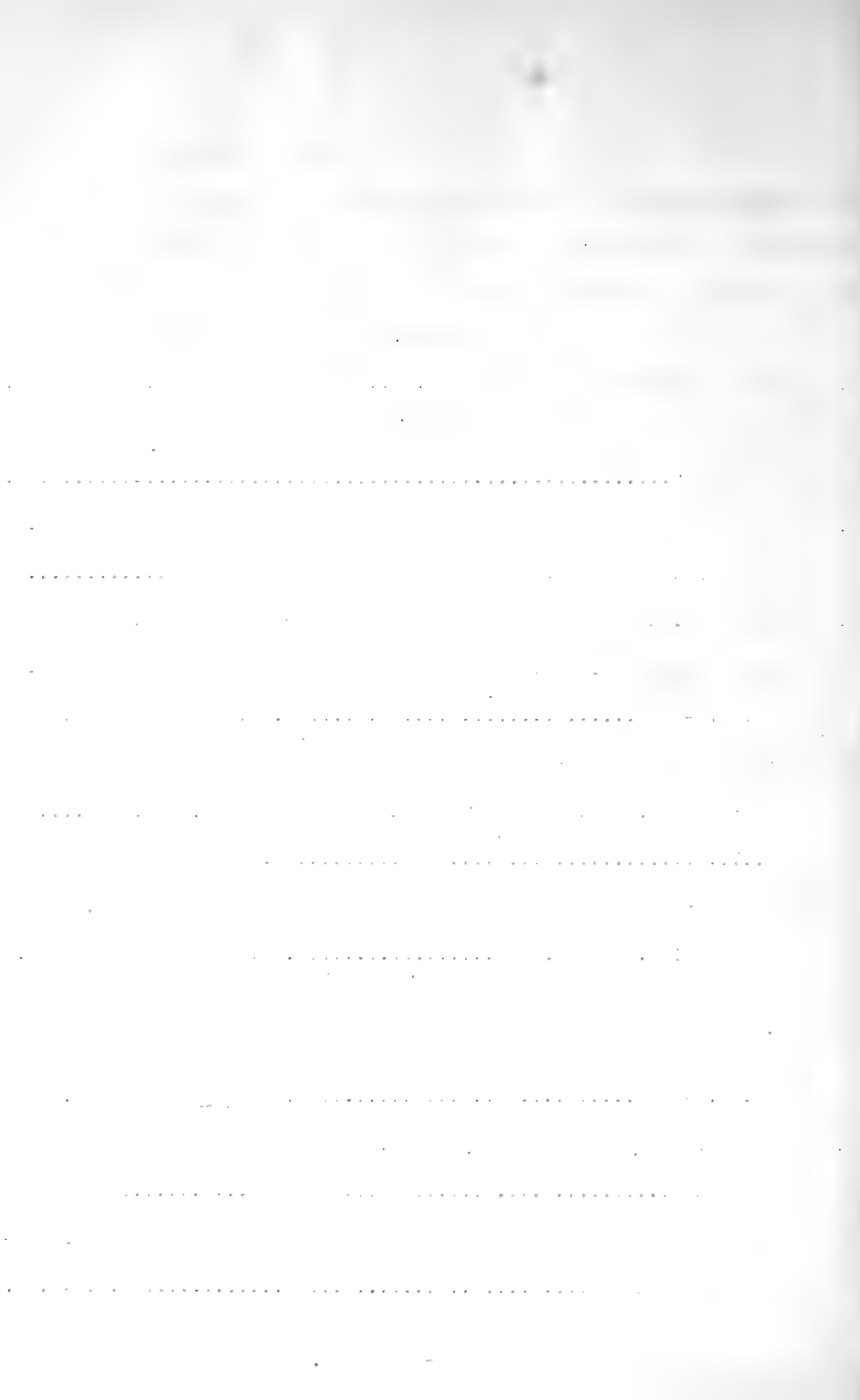
The widely extensive old genus Omalium, as treated by Kraatz (Ins. D. II, 974), is by Thomson and after him other authors (also here) divided

into a series of coordinate smaller genera: Etheothassa, Phloeostiba, Xylodromus, Phloeonomus, Omalium, Phyllodrepa, Hapalaraea, Acrolocha, Pycnoglypta and Acrulea. The most similar elements are thereby collected and separated from less closely allied species.

Key to Species.

1. Antennae at base reddish-yellow 2.
- Antennae at base pitch-black or dark, distally toward tip occasionally brownish..... 5.
2. The constricted neck of the head densely or very densely punctated: 3.
- The constricted neck of the head with simple punctation..... 4.
3. The impressions of the forehead before the ocelli rounded, foveiform; the temples obliquely rounded off; abdomen somewhat glistening.
L. 3.5-4 mm..... 1. O. rivulare Payk.
- Impressions of the forehead before the ocelli short linear; temples very short, suddenly constricted; abdomen dull. L. 3-3.5 mm....
..... 2. O. septentrionis Thoms.
4. Head and pronotum almost smooth; elytra very finely punctated, dull ly shining. L. 4-4.5 mm.....3. O. laeviusculum Gyllh.

4. Head, pronotum and elytra rather robustly punctated, these glistening.
L. 3.5-4 mm..... 4. O. riparium Thoms.
5. Temples of the head especially short, nearly obsolete, suddenly constricted..... 6.
- Temples of the head about as long as the diameter of the eye, smoothly rounded off..... 7.



6. Pronotal impressions very flat, yet distinct. L. 2.5 mm.....
.....5. O. oxycanthae Gravh.
- Pronotal impressions at middle rather deep, oviform. L. 2 mm.....
.....6. O. exiguum Gyllh.
7. Pronotum with greatest breadth before middle, posteriorly feebly narrowing. L. 2.5-3.5 mm..... 7. O. caesum Gravh.
- Pronotum with greatest breadth behind middle, narrowing anteriorly.
L. 3-3.5 mm..... 8. O. excavatum Steph.

1. O. rivulare Payk.

(Payk. Mon. Staph. 65; Erichs. Käf. Mk. Br. I, 629; Gen. Spec. Staph. 875; Kraatz Ins. D. II, 978; Thoms. Skand. Col. III, 211; Rey Brévip. 1880, 202; Ganglb. Käf. M. II, 734. - incisum Gravh. Mon. 209).

A rather broad, flatly convex species, with reddish-yellow antennal base, identified inter alia by very densely punctated neck.

Black, glistening; thorax naked, abdomen with especially short, fine and ~~asparse~~ hair vestiture; pronotal side-margins and posterior margin often reddish; elytra and abdominal tip brownish, sometimes light yellowish-brown; first joint of antennae reddish-yellow, the three-four following joints and the mouth most often brownish reddish-yellow; legs purely reddish-yellow.

The head (Fig. 183) is much narrower than pronotum, strongly neck-formed constricted behind, with strongly oblique, very short temples, --- and with large, protruding eyes, rather robust and isolated, but the neck with dense punctation, with two deep foveae on forehead before the ocelli, and two flat longitudinal impressions toward the fore-margin, antennae

smoothly thickened distally, their next-last joints not strongly transverse. Pronotum is narrower than elytra, broader than long, feebly narrowing posteriorly, robust and rather isolated punctation, with two rather deep, oblong impressions at middle, and a feeble one in middle-line anteriorly between these, side-margins before the hind corners flatly impressed and smoothened; elytra nearly twice as long as pronotum, rather flat, coarsely and rather densely punctated; abdomen indistinctly punctated, especially densely shagreened and somewhat glistening. L. 3.5-4 mm.

Common everywhere at rotting and mouldy plants, also at carrion, outflowing fomenting sap of trees, in alluvium at lakes, and on beaches under seaweed.

2. O. septentrionis Thoms.

(Thoms. Ofv. Vet. Forh. 1856, 223; Skand. Col. III, 211; Ganglb. Käf. M. II, 735. - impressum Kraatz Ins. D. II, 982).

Of same length as, but a little narrower than caesum, closely allied to rivulare, but inter alia more robustly and densely punctated.

Black; the head, pronotum and elytra glistening, abdomen dull; pronotal side-margins and posterior margin reddish; elytra and abdominal tip reddish-brown; the antennae reddish-brown, their base, mouth-parts and legs reddish-yellow.

The head rather deeply and densely punctated, with short, linear, deep foveae of forehead as in excavatum, temples very short, suddenly constricted, angularly, next-last joints of the antennae more strongly transverse than in rivulare; Pronotum as in caesum, but its impressions on dorsum and

at sides less deep; elytra scarcely twice as long as pronotum, more densely punctated than in rivulare, posteriorly with longitudinal-rugose punctation; abdomen extremely finely shagreened, and due thereto dull.

L. 3-3.5 mm.

Distributed in Middle Europe, Norway, Finland and Lapland. Its occurrence in this country is yet doubtful. That in Dr. Meinert's catalogue of our Omalini described specimen from Ry (Entom. Medd. 3. B. 1891-92,7) is undoubtedly a teneral specimen of caesum.

3. O. laeviusculum Gyllh.

(Gyllh. Ins. Suec. IV, 464; Thoms. Skand. Col. III, 213; Rey Brévip. 1880, 193; Ganglb. Käf. M. II, 734.- fucicola Kraatz Ins. D. II, 978 Note).

Larger and especially broader than rivulare. Glistening black; elytra with reddish humeri, sometimes entirely reddish-brown, pronotum also often reddish-brown; antennal base, and the legs reddish-yellow.

The head and pronotum with very fine scattered punctation, almost smooth, foveae of the forehead before the ocelli round; pronotum broad, anteriorly more narrowing than in revulare, its longitudinal impressions on dorsum broad, punctated, its posteriorly flatly set off side-margins distinctly shagreened in the surface; elytra at least twice as long as pronotum, with rather fine and scattered punctation, the surface shagreened, and therefore dull or dully shining; abdomen scarcely punctated; prothorax indistinctly punctated, densely shagreened and dull. L. 4-4.5 mm. (accd. to Ganglb. and Kraatz).

A strand species. Distributed along the coasts of North Germany, North

France, England, Iceland and Scandinavia. Heretofore not recorded in this country, where its appearance however is not unlikely.

4. O. riparium Thoms.

(Thoms. Ofv. Vet. Ac. Forh. 1856, 224; Skand. Col. III, 212; Rey Brévip. 1880, 196; Ganglb. Käf. M. II, 734).

From rivulare, which this species is like in form and size, also in color of antennae and legs, it is easily separated by the following deviations:

The elytra are black with brownish posterior margins, more rarely at greater extension brownish; the neck with only simple and fine punctation, but very densely chagreened and dull; pronotal longitudinal impressions at middle most often deeper, its posterior set off side-margins not smooth surfaced, but shagreened and sometimes reddish; elytra a little longer than in rivulare, more than twice as long as pronotum, feebly longitudinally convex, a little finer and denser, often feebly rugose punctation; abdomen dully glistening. L. 3.5-4 mm. ----- (Page 611) -----

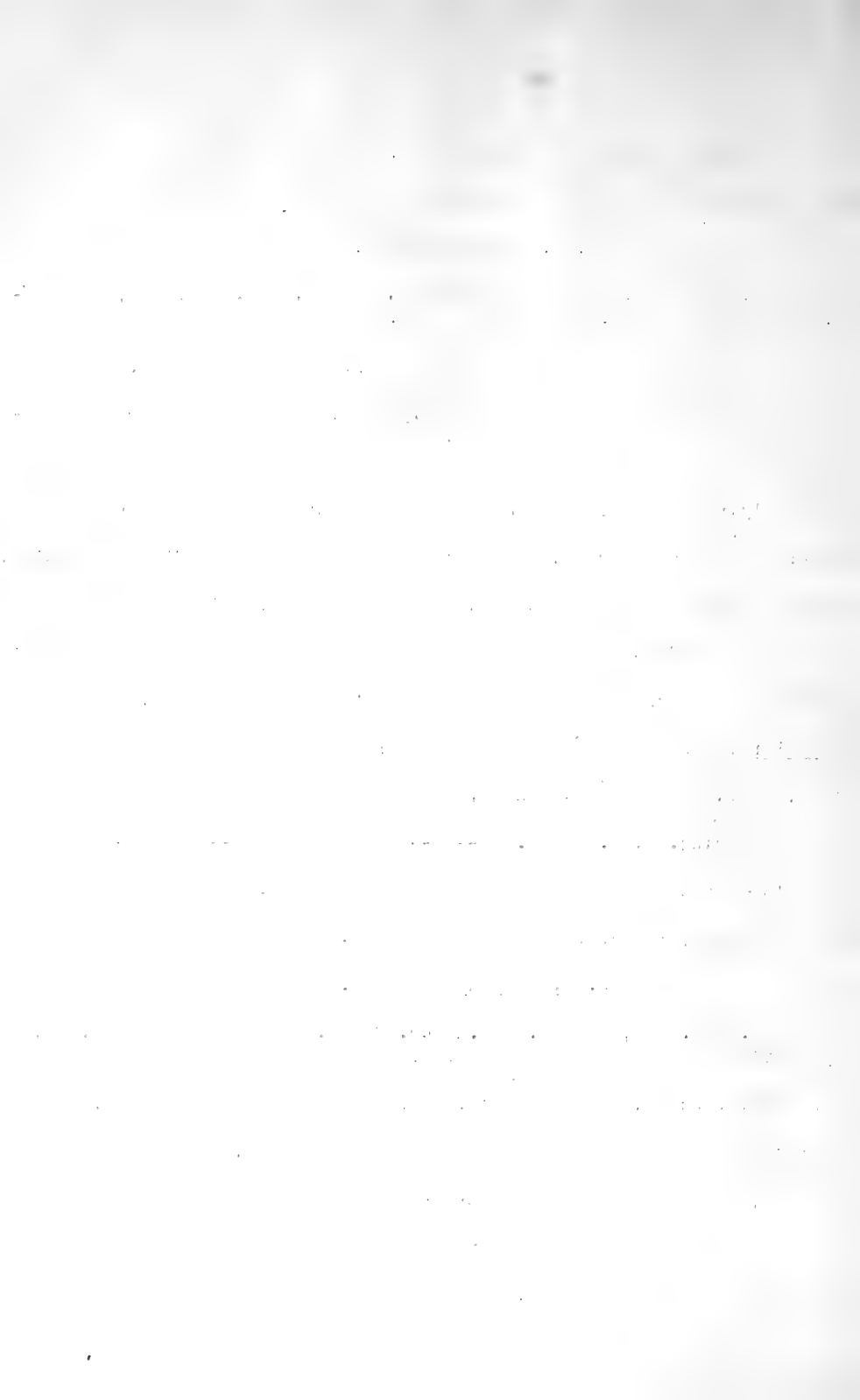
On the strand under seaweed and at animal offal. Distributed at North European coasts; rather rare in this country.

5. O. oxycanthae Gravh.

(Gravh. Mon. 210; Erichs. Gen. Spec. Staph. 877; Kraatz Ins. D. II, 982; Rey Brévip. 1880, 209; Ganglb. Käf. M. II, 735).

A small species, in form most like rivulare, but much smaller, with dark antennal base and feeble impressions on pronotum.

Black; head, pronotum and elytra somewhat glistening, abdomen more dull; elytra brown; antennae entirely black, or the middle joints (2-5) brownish; legs reddish-yellow.



The head and neck with rather robust and isolated punctation, its impressions before the ocelli short and rather deep, anteriorly outwardly bent, temples very short, suddenly constricted, antennae smoothly and slightly thickened distally; pronotum a little narrower than elytra, $1\frac{1}{2}$ times as broad as long, with smoothly rounded sides, slightly convex, rather robust and isolated punctation, with two feeble longitudinal impressions at middle, and with posteriorly impressed side-margins. The elytra are twice as long as pronotum, robustly and densely punctated, the surface especially finely shagreened. L. 2.5 mm.

Distributed in Middle Europe; in this country rare or very rare, in offal or at carion (Randers; Odense; Gilleleje Strand, Sorø, Boserup, Naestved).

6. O. exiguum Gyllh.

(Gyllh. Ins. Suec. II, 218; Erichs. Gen. Spec. Staph. 876; Kraatz Ins. D. II, 984; Thoms. Skand. Col. III, 213; Rey Brévip. 1880, 212; Ganglb. Käf. M. II, 736).

Still smaller and narrower than oxycanthae, from which it further is easily separated, inter alia, by the deep impressions of pronotum.

Deeply black, glistening; elytra sometimes brownish; antennae entirely black or brownish-black; legs reddish-yellow, occasionally brownish-yellow; femora most often pitch-brown.

The head is densely and deeply punctated, foveae of the forehead before the ocelli round, deep, the longitudinal impressions anteriorly very finely side-margined, temples very short, suddenly constricted, antennae feebly and smoothly thickened distally; pronotum a little narrower than elytra,



1½ times as broad as long, feebly narrowing posteriorly, with rectangular hind-corners, dorsum robustly and densely punctated, with two deep longitudinal impressions at middle, and posteriorly impressed side-margins; elytra about twice as long as pronotum, robustly and very densely, somewhat rugosely punctated; abdomen scarcely punctated. L. 2 mm.

Distributed in Middle and North Europe. Very rare here; found in compost, alluvium, under seaweed, carrion, and at outflowing tree sap.

(Vicinity of Copenhagen, Vallø; Haderslev; Lindum Forest, south of Hobro, Aalborg at the Fjord, and other places).

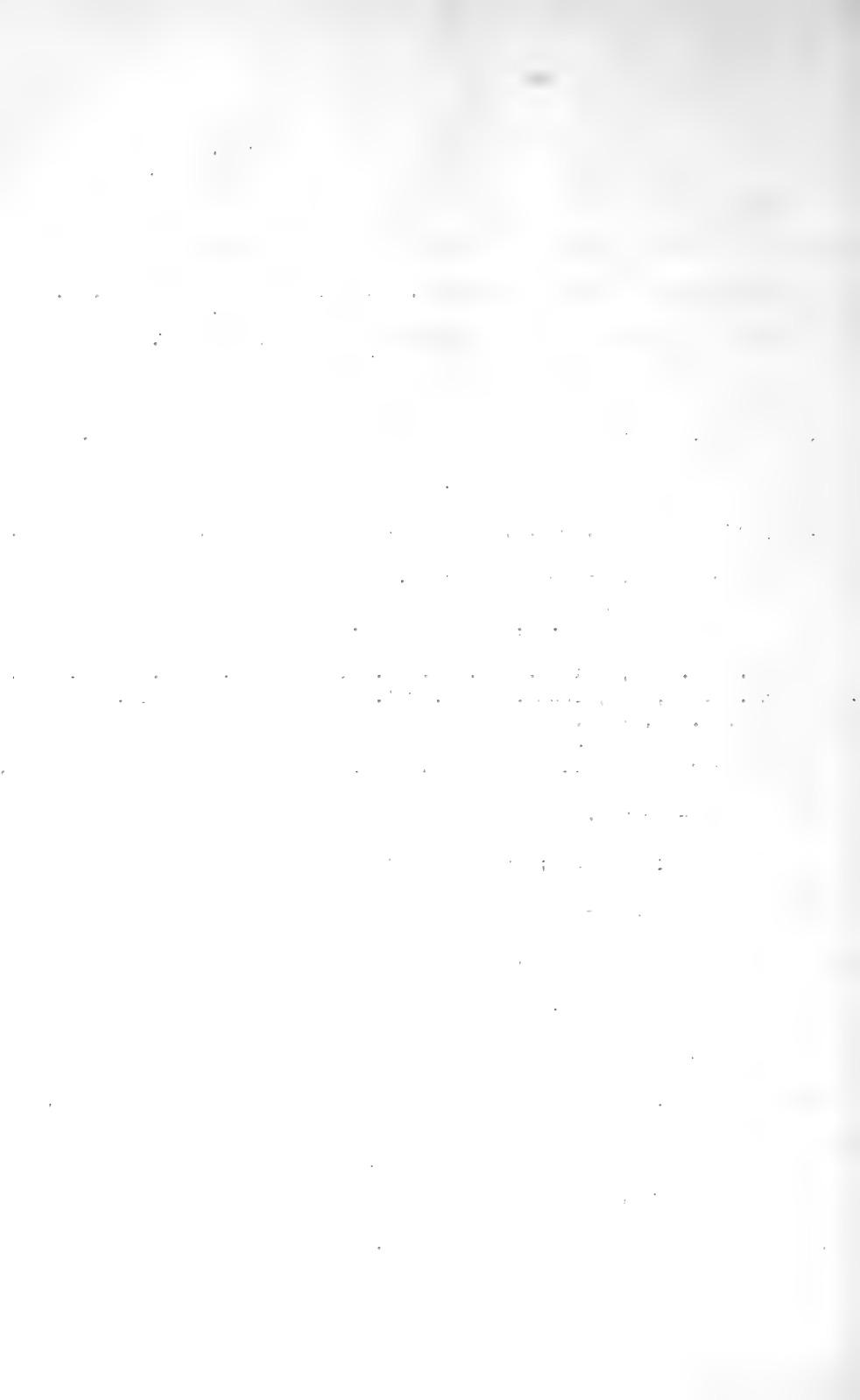
7. O. caesum Gravh.

(Gravh. Mon. 209; Erichs. Käf. Mk. Br. I, 630; Gen. Spec. Staph. 876; Kraatz Ins. D. II, 981; Thoms. Skand. Col. III, 214; Rey Brévip. 1880, 214; Ganglb. Käf. M. II, 736).

Among the closest allied species identified by flat forehead and fine, linear forehead-grooves.

Black, a little shining; the head with exception of fore-margin dull; pronotal side- and hind-margins not infrequently brownish-red; elytra often brown; antennae black at base, distally toward the tip most often reddish-brown; legs reddish-yellow.

The head at middle and posteriorly with robust and very dense, somewhat rugose punctation, at fore-margin with scattered or simple punctation, forehead flat, with two linear grooves before the ocelli, and two very flat impressions anteriorly, temples half as long as the eyes, obliquely rounded off, antennae smoothly thickened distally. Pronotum is narrower than elytra,



broadier than long, broadest a little before the middle, feebly, yet distinctly narrowing posteriorly, dorsum robustly and densely punctated, with two deep, oblong longitudinal impressions at middle, and a feeble, short one in the middle-line anteriorly, also with anteriorly narrowly, posteriorly broader and more distinctly set off side-margins, which are coarsely and only simply punctated; elytra twice as long as pronotum, coarsely and very densely punctated; abdomen extremely finely shagreened and indistinctly punctated, rather dull, its side-margins broad, upturned. L. 2.5-3.5 mm.

Distributed throughout the entire Europe, and everywhere, also here common.

O. litorale Kr. (Ins. D. II, 980) is one to caesum very closely allied species, perhaps only a variety of same. Most often it is distinctly smaller, L. 2.5 mm; the head especially is more, and all over glistening, with dense, but not rugose punctation, elytra somewhat shorter, and with somewhat finer and denser punctation. It is found in a few places at the Baltic coasts in North Germany and Skaane under seaweed, also in Sweden at the coast of the Kattegat, and may likely also occur in this country.

8. O. excavatum Steph.

(Steph. Ill. Brit. V, 355; Ganglb. Käf. M. II, 736. - fossulatum Erichs. Käf. Mk. Br. I, 630; Gen. Spec. Staph. 877; Kraatz Ins. D. II, 979; Thoms. Skand. Col. III, 213; Rey Brévip. 1880, 218. - caesum Gyllh. Ins. Suec. II, 215).

Of same size as caesum Gravh., easily identified especially by the form of pronotum and its very deep, ovate impressions.

Black or brownish-black, glistening; pronotal side-margins and the elytra, also the abdominal tip often brownish; antennae pitch-brown or reddish

brown with black base; legs reddish-yellow or brownish red.

The head with robust and very dense punctation, anteriorly however less dense, foveae of forehead before the ocelli deep and rather long, those at the fore-margin distinct, temples obliquely rounded off, amply

half as long as the eyes, antennae smoothly thickened distally; pronotum much narrower than elytra, broader than long, broadest across or behind middle, anteriorly distinctly and rather strongly, posteriorly scarcely narrowing, dorsum rather finely and densely punctated, with broad and flatly set off, almost smooth side-margins, and on the middle with two ovate, very deep longitudinal foveae; elytra twice as long as pronotum, robustly and very densely punctated, with a more or less distinct oblique groove across the dorsum downward to the sutural corner, and another groove along the suture, also with sharp, proportionately broad, upturned side-margins; abdomen very feebly shagreened, glistening, not punctated, its side-margins broadly set off, upturned. L. 3.5 mm.

Distributed in the entire Europe. In this country everywhere not rare in alluvium on beaches and at lakes, under moist leaves on wooded ground, in compost and like places.

116. Genus Phyllodrepa Thoms.

(Thoms. Skand. Col. III, 214+Hapalaraea Thoms. Skand. Col. III, 200. - Rey Brévip. 1880, 228+Hapalaraea Brevip. 1880, 280; Ganglb. Käf. M. II, 738).

Phyllodrepa is separated from Omalium in that, the body most often is of more even breadth, inasmuch as pronotum is only a little narrower than

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names of the persons who

have been appointed to the various positions

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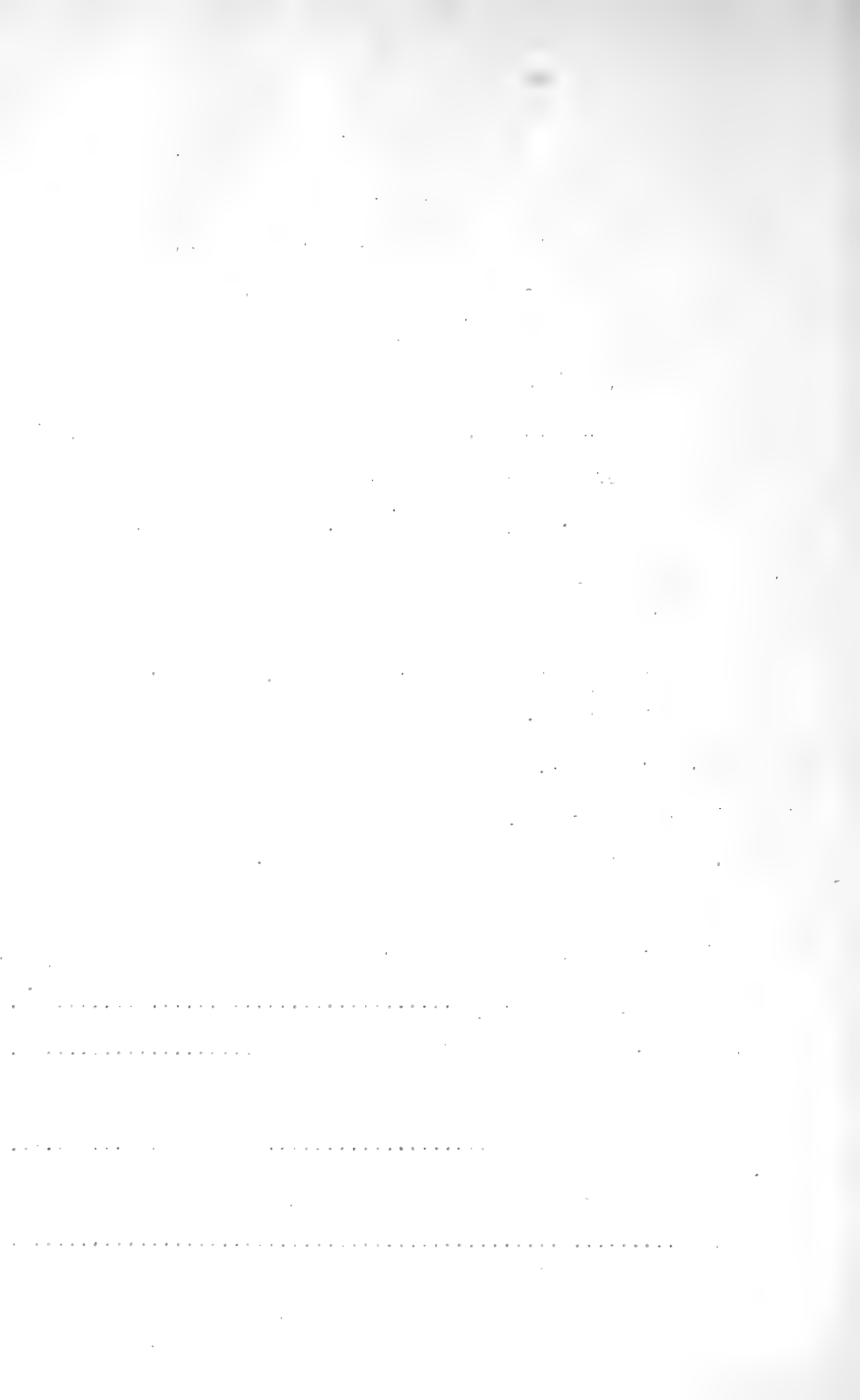
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elytra; the antennae are shorter and their next-last four joints more transverse; pronotum more smoothly convex, its two longitudinal impressions at middle either entirely obliterated or very feeble; mesothorax without carina in the middle-line; hind tarsi longer, nearly as long as tibiae. From Xylodromus it is separated namely by, that the antennae are not of even thickness, but that their nextlast four joints together with the distal joint form an elongate, five-jointed, rather robust club, and that the claw-joints of hind tarsi are a little longer, most often fully as long as the preceding four joints together. This becomes of importance especially in Subgenus Dropephylla, in which the narrow, equally broad species resemble the Xylodromus species.

Of the in Middle and North Europe distributed 14 species, 7 are heretofore found in this country. They live partly under the bark of insect-infested trees, where their larvae supposedly are pursuing the young of the bark-beetles; they likewise can be found in flowers and at outflowing tree-sap, more rarely in fungi and under leaves.

Key to Subgenera and Species.

1. Forehead with two small foveae or linear grooves before the ocelli: 1.
 - Subgenus Phyllodrepa s. str..... 2.
- Forehead before ocelli without foveae or grooves..... 5.
2. Elytra not, or indistinctly rowed punctated; the punctures mutually connected by fine lines..... 3.
- Elytra distinctly rowed punctated; punctures mutually not connected by lines..... 4.



3. Antennae entirely black or at least the basal joint black, the two following and the last joint sometimes reddish-brown. L. 4-5 mm.
..... 1. Ph. floralis Payk.
- Antennae at base yellowish-red, distally dark. L. 3-4 mm.....
..... 2. Ph. nigra Gravh.

4. Body black or blackish-brown. Abdomen very finely or not distinctly punctated. L. 4-5 mm..... 3. Ph. salicis Gyllh.
- Body predominatingly yellowish-red. Abdomen rather robustly and densely punctated. L. 4-5 mm..... 4. Ph. melanocephala F.
5. Body of equal breadth and narrow. Trochanter of hind legs and the sixth ventral abdominal joint in the ♂ simple: 2. Subgenus Dropephylla Rey..... 6.
- Body rather oblong-oval. Trochanter of the hind legs in ♂ large, dolabriform (Fig. 185) and the sixth ventral abdominal joint bidentate: 3. Subgenus Hapalaraea Thoms. - Species reddish-yellow. L. 2.5-3 mm..... 8. Ph. pygmaea Steph.
6. Body predominantly reddish-yellow. Elytra with robust, and at dorsum regularly rowed and feebly striped punctation. L. 2.5-3 mm.....
..... 5. Ph. ioptera Steph.
- Body black or pitch-brown,..... 7.
7. Pronotum finely punctated, most often entirely black. L. 2-2.5 mm....
..... 6. Ph. vilis Er.
- Pronotum robustly punctated, most often reddish-brown or at least with reddish-brown sides. L. 2.5 mm..... 7. Ph. gracilicornis Fairm

1. Subgenus Phyllodrepa s. str.

1. Ph. floralis Payk.

(Payk. Mon. Staph. 67; Erichs. Käf. Mk. Br. I, 633; Gen. Spec. Staph. 879; Kraatz Ins. D. II, 996; Thoms. Skand. Col. III, 214; Rey Brévip. 1880, 234; Ganglb. Käf. M. II, 740. - viburni Gravh. Micr. 117).

Among the following most closely allied species easily identified by the color of the antennae and the punctation of elytra.

Black, glistening, very sparsely, finely haired; antennae either entirely black or at least the basal joint dark, and the nearest following and last joint brownish-red; legs yellowish-red, sometimes with darker femora.

The head with rather robust and scattered punctation, anteriorly almost smooth, the surface elsewhere feebly aciculated, the forehead before ocelli with two short, oblique grooves, and anteriorly with two flat, oblong impressions, antennae rather short and robust, smoothly thickened distally, their four-five next-last joints rather strongly transverse; pronotum somewhat narrower than elytra, broader than long, posteriorly narrowing, with rounded, but before the obtuse-angulate hind corners slightly incurved sides, slightly convex, rather robustly and densely punctated, marginal punctures aciculated, dorsum at middle often with two very feeble or indistinct longitudinal impressions; elytra about twice as long as pronotum, rather robustly and densely punctated, the punctures mutually connected with fine lines; abdomen with very fine and isolated punctation, the surface densely shagreened. L. 4-6 mm.

Distributed in Europe; in this country not rare in the islands and in the wooded regions of Jutland, on blooming plants and at outflowing tree-sap, also in hollow trees, in bird's nests, and under bark.

2. Ph. nigra Gravh.

(Gravh. Mon. 212; Erichs. Gen. Spec. Staph. 880; Kraatz Ins. D. II, 997; Thoms. Skand. Col. III, 214; Rey Brévip. 1880, 238; Ganglb. Käf. M. II, 740. - salicina Gyllh. Ins. Suec. IV, 467).

From floralis, to which it is very closely allied, it is separated namely by the color of antennae and pronotum.

Black, glistening, especially finely, sparsely haired; pronotal sides, occasionally also the humeri of elytra reddish-brown; the first five joints of antennae, maxillary palpi, and legs reddish-yellow.

The head and pronotum with distinctly aciculated surface, and the elytra more robustly punctated than in floralis; it is ordinarily somewhat smaller. L. 3-4 mm.

Much less frequent than the preceding species, to which it often is referred as variety. It is most often encountered upon blooming bushes: hawthorn, arrowwood (Viburnum), and rowan, but also in the crumbly hollow trees and in wasp's nests, and like places (Aalborg, Horsens, Vejle, Kolding; Copenhagen, Hillerød).

3. Ph. salicis Gyllh.

(Gyllh. Ins. Suec. II, 226; Erichs. Gen. Spec. Staph. 880; Kraatz Ins. D. II, 994; Thoms. Skand. Col. III, 215; Rey Brévip. 1880, 231; Ganglb. Käf. M. II, 740).

Most often a little larger and broader than floralis, identified especially by the color, and the partly rowed punctation of elytra.

Black or pitchy brown; pronotal sides, sometimes also elytral humeri or dorsum, and abdominal side-margins brownish-red; antennae, mouth-parts, and legs yellowish-red.



The punctuation and other sculpture of head and pronotum same as in floralis or somewhat more robust, antennae robust; elytra robustly and densely punctated, the punctures not, as in floralis, connected by lines, but rowed at the dorsum, and the rows most often slightly groove-like deepened; abdomen very finely and rather densely punctated, its four first dorsal joints at middle with two small, grayish glistening spots. L. 4-5 mm.

Fig. 184. Phyllodrepa salicis Gyllh.

Distributed in Middle and North Europe; rare in this country; in hollow trees, at outflowing tree sap, and on flowers, also at rotting plants and under carrion.

4. Ph. melanocephala Fabr.

(Fabr. Mant. Ins. I 222; Ganglb. Käf. M. II, 740. - brunnea Payk. Mon. Staph. 63; Erichs. Käf. Mk. Br. I, 633; Jen. Spec. Staph. 881; Kraatz Ins. D. II, 995; Thoms. Skand. Col. III, 215; Rey Brévip. 1880, 239).

From salicis which is very closely allied to melanocephala it is easily separated by the color, and punctuation of abdomen.

Yellowish-red, glistening, naked; the head black, an obliterated spot posteriorly on elytra, the last abdominal joints, most often also a longitudinal streak at middle of pronotum, also metathorax pitchy brown.

Head and pronotum with rather robust and isolated punctuation, the surface smooth, their impressions same as in floralis; the antennae less robust than in salicis; elytra hardly twice as long as pronotum, robustly and

densely, at dorsum and at the suture with rowed punctuation, the punctures mutually not connected by lines; abdomen rather robustly and densely punc-

tated, considerably more robust than in salicis, its first free dorsal joint at middle with two small, grayish glistening spots. L. 4-5 mm.

Distributed in Middle and North Europe; rare in this country; under bark of infested trees and on stubs, in hollow trees, at tree-sap and fungi (Vicinity of Copenhagen, Hillerød; Frisenborg Forests, Fanders, Lindum Forest and several other places). - The larvae is found in tindery beech by Hr. E. Rosenberg, and reared, 29. 4. 1895.

2. Subgenus Dropephylla Rey.

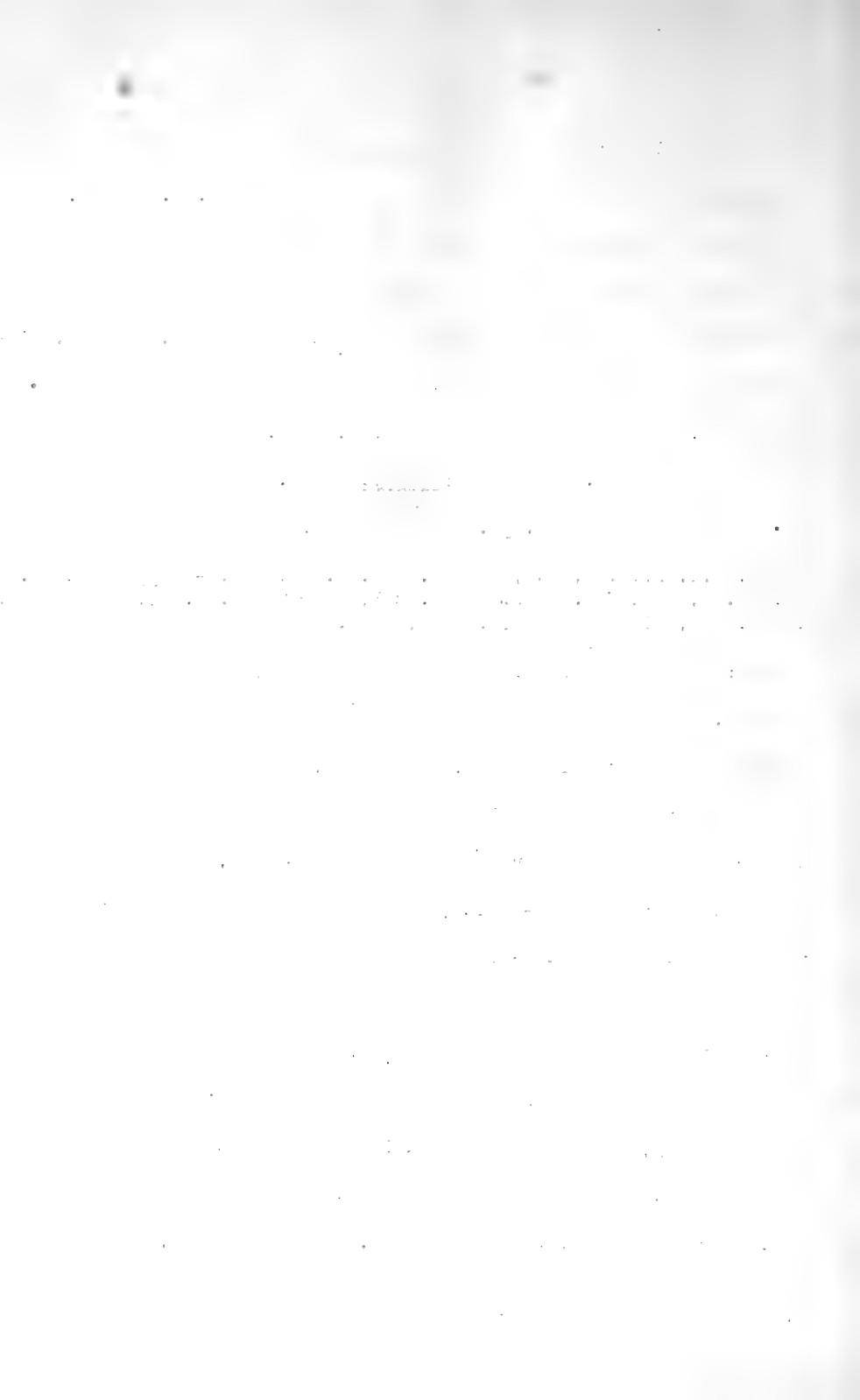
5. Ph. ioptera Steph.

(Steph. Ill. Brit. V, 349; Ganglb. Käf. M. II, 741. - lucida Erichs. Käf. Mk. Br. I, 634; Gen. Spec. Staph. 881; Kraatz Ins. D. II, 905; Thoms. Skand. Col. III, 215; Rey Brévip. 1880, 242).

A rather small and narrow, evenly broad species, easily recognized by the color.

Reddish-yellow with black head, glistening, very finely and sparsely haired; elytra around the scutellum and posteriorly before the tip pitch black, sometimes more extensively black or pitch-black, so that only the humeri and sides are reddish-yellow; abdomen more or less extensively black and metathorax likewise pitch-black or dark; antennae toward the tip most often brownish.

The head robustly and densely punctated, without foveae before the ocelli, but with two flat impressions at fore-margin, antennae rather short, thickened distally; pronotum only a little narrower than elytra, a little broader than long, posteriorly feebly narrowing, with slightly rounded sides and nearly rectangular corners posteriorly, slightly convex, robustly and



rather densely punctated, without distinct longitudinal impressions on dorsum, but inside the hind corners slightly impressed. Elytra are not fully twice as long as pronotum, robustly and at the dorsum regularly rowed and faintly striped punctated; abdomen with extremely fine, scattered punctation, indistinctly shagreened; tibiae not spiniferous. L. 2.5-3 mm.

Distributed in Middle and North Europe; rare in this country; in wooded regions under bark, in flowers, under fagot and in fungi; occasionally found in numbers.

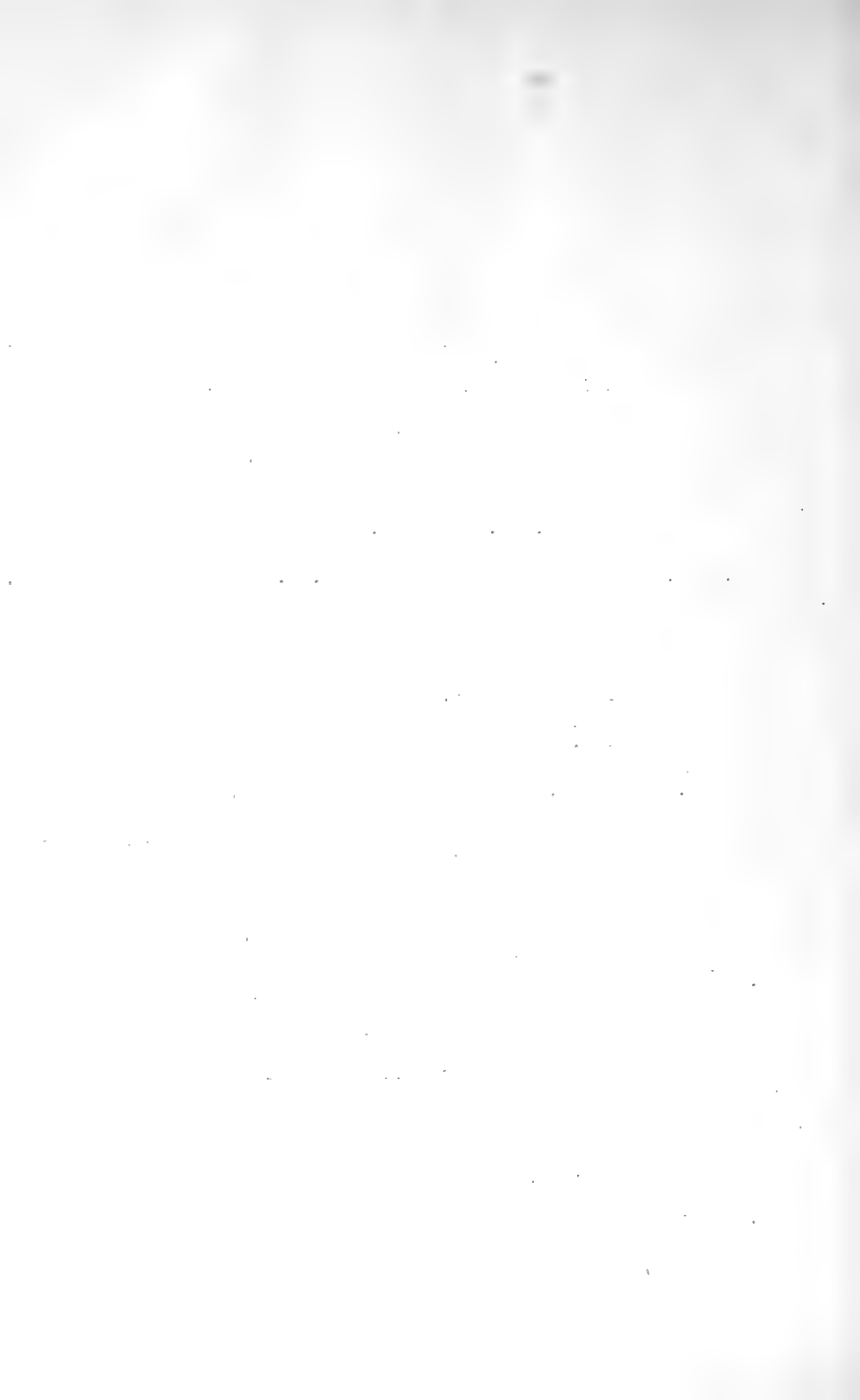
6. Ph. vilis Er.

(Erichs. Gen. Spec. Staph. 882; Kraatz Ins. D. II, 993; Thoms. Skand. Col. III, 216; Rey Brévip. 1880, 254; Ganglb. Käf. M. II, 742).

Equally broad and narrow like the preceding species, but a little flatter and most often a little smaller, furthermore different in color, and the punctation of elytra.

Pitch-black, with fine, short gray hair vestiture, glistening; sides of pronotum sometimes brownish; the first five antennal joints, mouth-parts, and legs yellow.

The head rather finely and not densely punctated, without foveae before the ocelli, but with two distinct impressions at fore-margin, the next-last four-five antennal joints strongly transverse; pronotum only a little narrower than elytra, -----(Page 617)----- about as long as broad, distinctly narrowing posteriorly, and with almost rectangular hind corners, slightly convex, densely and rather finely punctated, and with two small, oftenest very feeble longitudinal impressions posteriorly before the scutellum; elytra nearly twice as long as pronotum, rather flat,



with dense and fine, at dorsum distinctly rowed punctation; abdomen with extremely fine, scattered punctation, the surface especially densely shagreened; tibiae not spiniferous. L. 2-2.5 mm.

Distributed in Middle and North Europe. Very rare in this country; under bark of insect-infested trees (Vicinity of Copenhagen; Fuglse and Lysemose Forests Loll.; Tommerup, Fyn; Haderslev).

7. Ph. gracilicornis Fairm.

(Fairm. Faun. Ent. Paris. I, 642; Kraatz Ins. D. II, 993; Rey Brévip. 1880, 257; Ganglb. Käf. M. II, 742).

Most often somewhat larger than vilis, to which it otherwise is very closely allied, and only deviates from in the following details:

The color is somewhat lighter; head and abdomen blackish-brown, pronotum and elytra reddish-brown; the body is broader, but less flat, pronotum and elytra more robustly punctated, the latter with less dense, but more confused punctation. L. 2.5 mm.

It is especially native of western Middle Europe, but is also occasionally found in this country (Vicinity of Copenhagen, Dyrehaven (6. 10. 78, Schlick); Lolland. cf. Ent. Medd. III. B., 1891-92, 10).

Closely allied to vilis and ioptera is furthermore linearis Zetterst. (Kraatz Ins. D. II, 990). It is reddish-yellow, glistening, naked, head and abdomen sometimes brownish; pronotum is robustly and densely punctated, elytra with dense and coarse, somewhat rugose and rowed punctation. L. 3 mm.

Distributed in Middle and North Europe. Found in Skaane, but not yet in Denmark.

3. Subgenus Hapalaraea Thoms.

8. Ph. pygmaea Gyllh.

(Gyllh. Ins. Suec. II, 223; Erichs. Gen. Spec. Staph. 883; Kraatz Ins. D. II, 1001; Thoms. Skand. Col. III, 201; Rey Brévip. 1880, 282; Ganglb. Käf. M. II, 742).

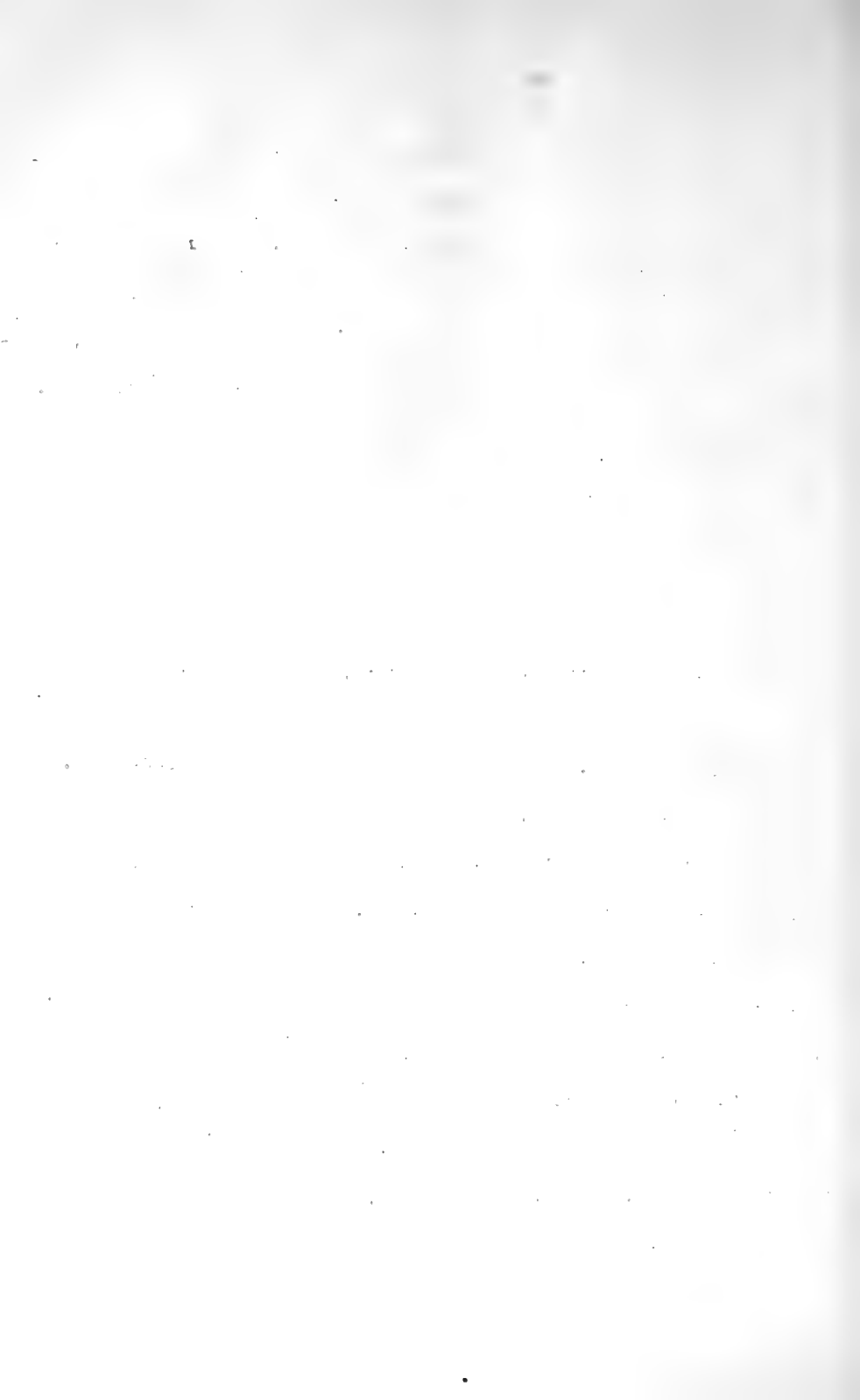
This species deviates from the preceding by a more oval formed, somewhat convex body, and especially by the peculiar sex-characters of ♂.

Subgenus Hapalaraea is therefore by Thomson elevated to generic status, ranking equally with the preceding and following.

Reddish-yellow, distinctly whitish haired, rather glistening; the head and posterior part of elytra, also middle of dorsal abdominal joints sometimes brownish.

The head is much narrower than pronotum, without temples, rather dense-

ly and finely punctated, with two flat impressions at fore-margin, and two, often indistinct, very short, small foveae on the vertex, in which the broadly separated ocelli are set, antennae thickened distally, their last five joints more robust than the preceding. Pronotum is narrower than elytra, broader than long, anteriorly more narrowing than posteriorly, and the side-margins back of middle feebly obtuse-angulate prominent, posteriorly slightly outcurved, dorsum convex, with rather fine and dense punctation, before the hind corners obliquely, feebly depressed; elytra nearly twice as long as pronotum, punctated like same, slightly convex; abdomen with extremely fine, scattered punctation; middle-tibiae finely spiniferous. L. 2.5-3 mm.



In the ♂ the trochanter of hind legs (Fig. 185) very strongly and peculiarly, triangular dolabriform dilated, half as long as femora; the sixth ventral abdominal joint is in a deep and incurved impression armed with two, closely placed teeth. (Fig. 186).

Fig. 185. Hind femur of Phyllodrepa (Hapalaraea) pygmaea Gyllh. ♂.

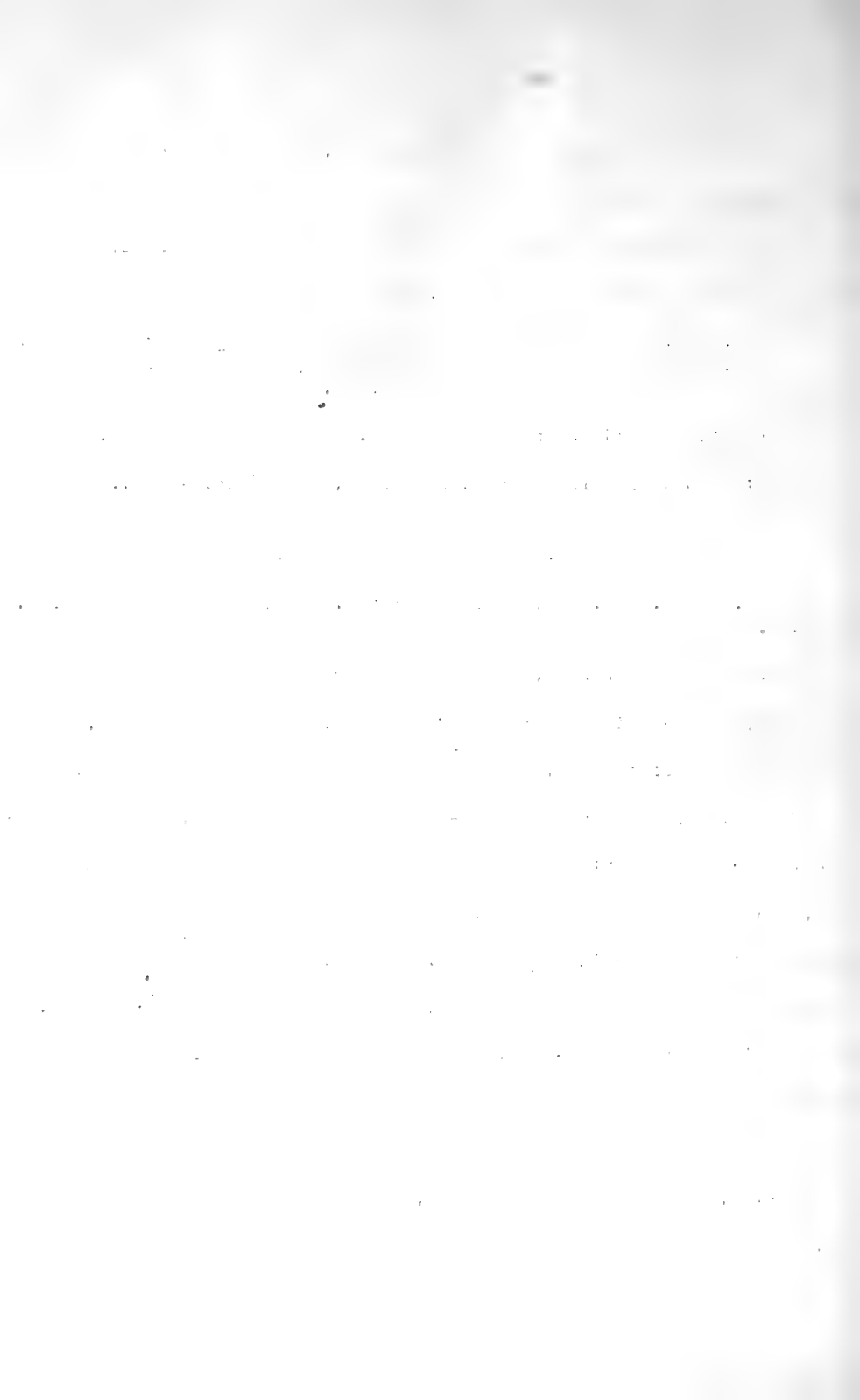
Fig. 186. Last three ventral abdominal joints in Phyllodrepa (Hapalaraea) pygmaea Gyllh. ♂.

Distributed in Middle and North Europe. In this country rare; under bark, in the wood crumblings in hollow trees, and at tree-fungi.

117. Genus Acrolocha Thoms.

(Thoms. Skand. Col. III, 201; Rey Brévip. 1880, 259; Ganglb. Käf. M. II, 743).

The body is rather flat, and in appearance bears a resemblance of Anthobium; the head is narrower than pronotum, constricted behind, with short, rounded off temples, and with rather large, protruding eyes, forehead flat, its impressions at fore-margin nearly obsolete, the foveae before the ocelli of vertex small or linear, antennae at middle peculiarly thin, inasmuch as their third joint is unusually fine and rather attenuated, the three following very small, rounded, the seventh joint is considerably more robust than the sixth, and together with the last four, robust joints form a five-jointed, strongly set off club. Pronotum is narrower than elytra, without distinct longitudinal impressions identical with Phyllodrepa; elytra at least twice as long as pronotum; abdomen roundly tapering, its side-margins broadly, upturned set off; tibiae spiniferous, hind tarsi half as long as tibiae, their claw-joint as long as the



first four joints together. In the ♂ the first four joints of fore-tarsi is dilated.

The species are found under rotting plant stuff and offal; 3 species occur in Middle Europe, of which 2 are found in this country.

Key to Species.

1. Pronotal sides before hind corners narrowly and flatly impressed;
the corners obtuse angular. L. 2 mm.....1. A. striata Gravh.
- Pronotum without impressions before hind corners, these rounded off.
L. 2.5 mm.....2. A. sulcatula Steph.

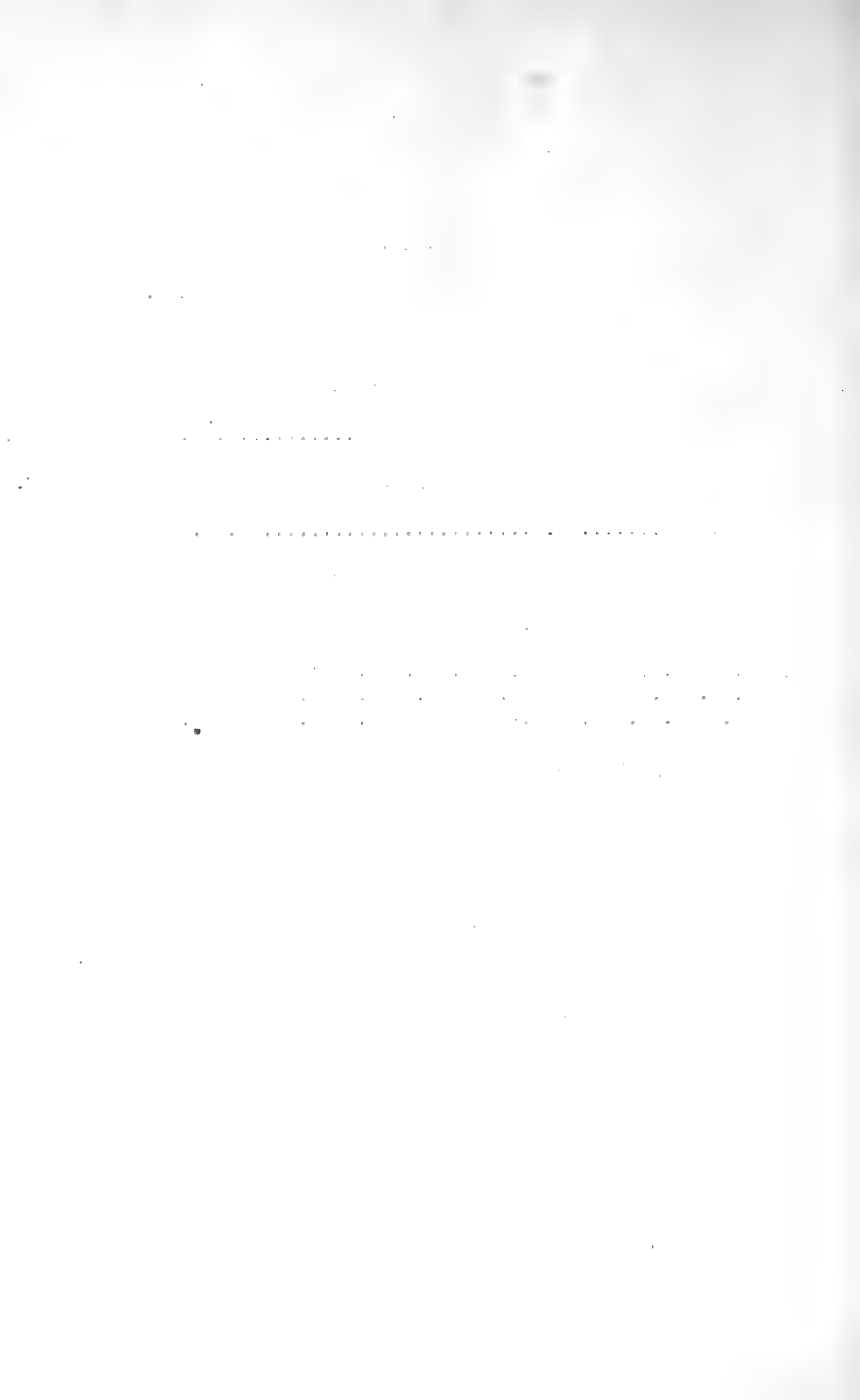
1. A. striata Gravh.

(Gravh. Micr. 119; Erichs. Käf. Mk. Br. I, 632; Gen. Spec. Staph. 882; Kraatz Ins. D. II, 1000; Thoms. Skand. Col. III, 202; Rey Brévip. 1880, 262; Ganglb. Käf. M. II, 743.- minuta Oliv. Ent. III, 42).

A small, Anthobium-like species with finely striped elytra, in relation to the following easily identified by the impressions at the hind corners of pronotum.

Black, glistening, almost naked; elytra and the abdominal tip often brownish, antennal base and mouth often reddish-brown; legs yellow.

The body is flatly convex, feebly broadened posteriorly. The head with two narrow, almost linear, often indistinct forehead-foveae before the ocelli, and is together with pronotum rather finely and densely punctated, the punctures mutually connected with fine lines, antennae (see above) are as long as head and pronotum together; pronotum narrower than elytra, almost twice as broad as long, with rounded sides obtuse angular hind corners,



before these flatly, and narrowly impressed at sides, often also with two feebly suggested longitudinal impressions on the dorsum. Elytra more than twice as long as pronotum, feebly broadened posteriorly, the dorsum till somewhat before tip with finely striped and rowed punctation, elsewhere all over rugosely shagreened, and the punctures mutually connected by lines; abdomen not punctated. L. 2 mm.

In the ♂ the first four joints of fore-tarsi dilated; the sixth ventral abdominal joint at base with two feeble, short longitudinal folds.

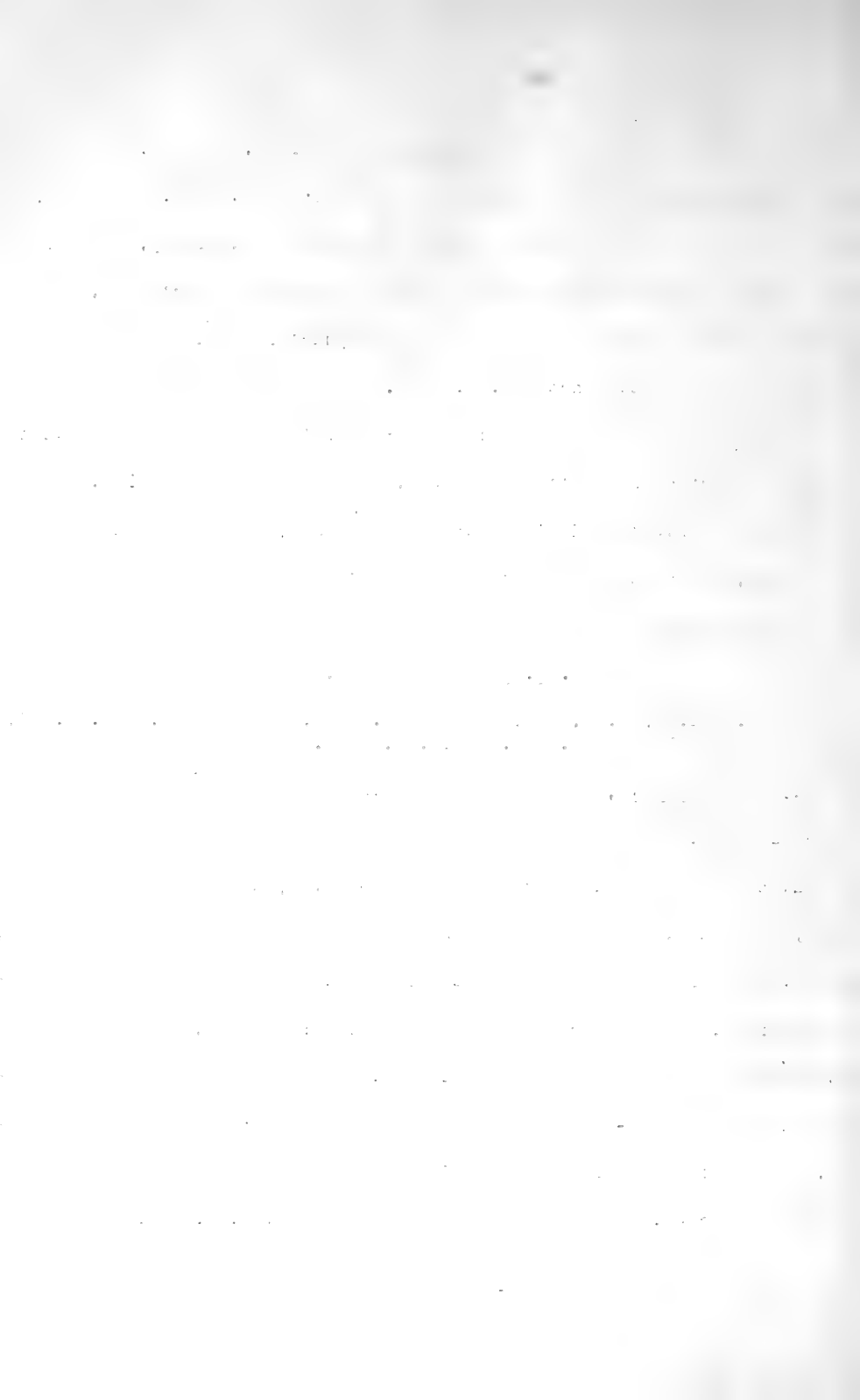
Widely distributed in Middle and North Europe; in this country rare; in compost, under rotting plant waste and at fungi (Odense; several places in Lolland-Falster).

2. A. sulcatula Steph.

(Steph. Ill. Brit. V, 336; Rey Prévip. 1880, 265; Ganglb. Käf. M. II, 744. - striata Lac. Faun. Ent. Paris. I, 475).

Much like striata, from which it however can be separated by the following details:

Antennal base and the legs are reddish-yellow; head and pronotum are finely punctated, but is more distinctly aciculated between the punctures, the foveae of forehead before the ocelli of vertex smaller and shorter; pronotum larger, nearly twice as broad as long, more convex, without impressions before the rounded off hind corners, sometimes very feebly and finely grooved in middle-line; elytra twice as long as pronotum, almost parallel, with striped and rowed punctation and shagreened about same as in the preceding species. As a rule it is a little larger. L. 2.5 mm.



In the ♂ the fore-tarsi are rather strongly dilated. The sixth ventral abdominal joint is said to have at middle posteriorly a rather long, robust spine (Ganglb.). Sometimes however the spine is not developed and only a little fold indicates its place.

Especially distributed in West Europe; very rare in this country.

I have found a single specimen at excrements on the strand at Lilleleje

(9. 1903), a second, ♂, in fungus in Hillerød (9. 1903); one specimen is found at Ørholm (Rosenberg).

118. Genus Pycnoglypta Thoms.

(Thoms. Skand. Col. III, 198; Rey Brévip. 1880, 269; Ganglb. Käf. W. II, 744).

The body is rather short, flatly convex, posteriorly feebly broadened; the head narrower than pronotum, with transversally constricted or transversally grooved vertex behind the protruding eyes, and inside these with a longitudinal groove, forehead otherwise slightly convex, without impressions, and without noticeable ocelli on the vertex, antennae as long as head and pronotum together, their last three joints robust, the next-last two rather strongly transverse, distinctly broader than the two preceding (7-8), which are only a little more robust than the middle ones (4-6) which are rather fine joints. Pronotum is narrower than elytra, narrowing posteriorly, without distinct impressions; elytra proportionately short, posteriorly broadened, abdomen convex, roundly tapering, its side-margins rather narrowly upturned set off; legs short, tibiae not spiniferous, twice as long as the short tarsi, of which the claw-joint is as long as the first four joints together.



To this genus only 1 northern and middle European species, which also is found in this country.

1. P. lurida Gyllh.

(Gyllh. Ins. Suec. III, 701; Kraatz Ins. D. II, 960; Thoms. Skand. Col. III, 199; Rey Brévip. 1880, 271; Ganglb. Käf. M. II, 744. - alpina Zett. Ins. Lapp. 52).

Recognizeable by the above denoted characters and by the coarse punctuation of the thorax.

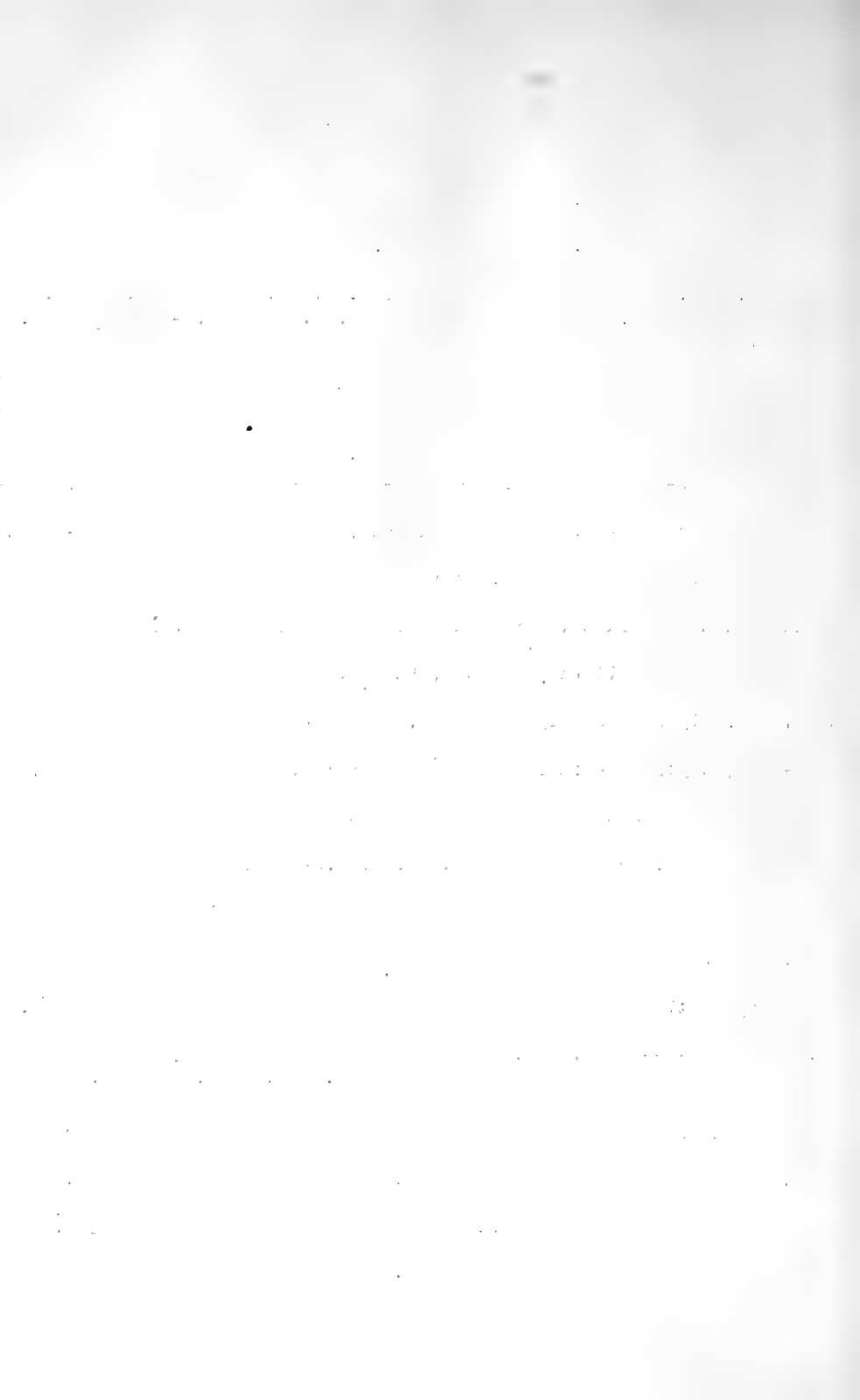
Black, pitch-black or darkly reddish-brown, somewhat glistening, especially finely and sparsely haired; antennae, mouth and legs reddish-yellow.

The head (see above) with scattered or simple and coarse punctuation; pronotum slightly cordate, across the middle $1\frac{1}{2}$ times as broad as long, and with anteriorly slightly rounded, back of middle feebly outcurved sides, convex, coarsely and densely punctated, posteriorly as a rule with smooth middle-line; elytra $1\frac{1}{2}$ times as long as pronotum, coarsely and densely, here and there somewhat row-formed punctated; abdomen with indistinct, or extremely fine, scattered punctuation. L. 2.5-3 mm.

In the ♂ the fourth ventral abdominal joint at middle of posterior margin with a robust tooth, the fifth and sixth on each side of the tapering middle very flatly incurvate; the seventh at middle-line flatly grooved.

(Fig. 187). ----- Fig. 187. Last four ventral abdominal joints in Pycnoglypta lurida Gyllh. ♂. (accd. to Muls.)

In this country very local, and heretofore only found in the vicinity around, and between Aalborg and Randers, on marsh and meadow ground, early in the spring in alluvium and between reeds under remnants of plants, some-numerous (Hasris Kaer, Gravlev Meadows). The assertion by Ganglbauer et al.



that it lives under bark of trees and in tree-fungi seems less correct.

119. Genus Acrulia Thoms.

(Thoms. Skand. Col. III, 199; Rey Brévip. 1880, 285; Ganglb. Käf. M. II, 745).

From the preceding, closest allied genera Acrulia is separated especially by the short, broadly oval, strongly convex form of the body, and by the distinctly notched side-margins of pronotum. The head scarcely constricted behind, the eyes rather protruding, forehead convex, with two small foveae before the not distinct ocelli of vertex, and with two feeble impressions at the fore-margin, antennae short and with 5-jointed set off club, of which the first joint is less robust than the three strongly transverse next-last joints; pronotum a little narrower than elytra, strongly convex, without longitudinal impressions on dorsum; elytra long; abdomen short, roundly tapering; mesothorax finely carinated in middle-line; legs short, tibiae not spiniferous, hind tarsi only half as long as tarsi, their claw-joint longer than the first four joints together. (Ganglb., Thoms.).

To this genus only 1 north and middle European species.

1. A. inflatta Gyllh.

(Gyllh. Ins. Suec. III, 700; Erichs. Gen. Spec. Staph. 883; Kraatz Ins. D. II, 1002; Thoms. Skand. Col. III, 200; Rey Brévip. 1880, 287; Ganglb. Käf. M. II, 745. - corticalis Heer; egregia Redtb.)

Brownish-red or pitch-brown, glistening, scarcely haired; pronotal side-margins, base of elytra, and abdominal sides not infrequently lighter than the middle; antennae reddish-brown, mouth and legs reddish-yellow.

Prothorax is densely and rather finely punctated; the head much narrower than pronotum; the latter twice as broad as long, anteriorly more narrowing than posteriorly, and with feebly rounded, back of middle slightly incurvate sides and with narrowly upturned, distinctly notched side-margins, before hind corners slightly impressed; elytra twice as long as pronotum, rather strongly convex, in the ♂ on the side-margin anteriorly with a small tooth (Ganglb.); abdomen almost smooth. L. 2-2.5 mm.

It is distributed in North and Middle Europe (Skaane, North Germany, England) and is found under bark of insect-infested trees. Presumably it may be found also in this country.

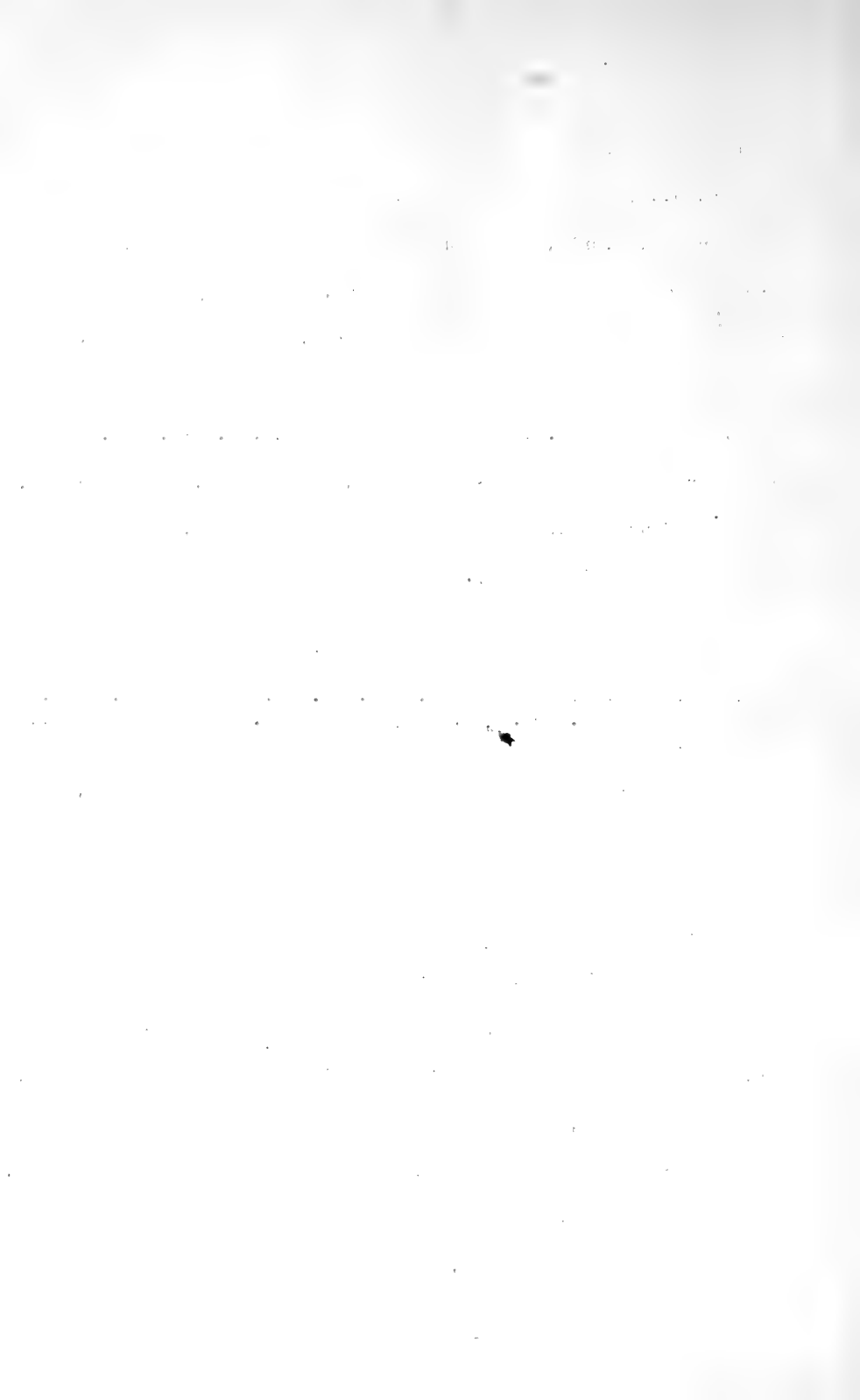
120. Genus Anthobium Steph.

(Steph. Ill. Brit. V, 335; Erichs. Käf. Mk. Br. I, 637; Gen. Spec. Staph. 890; Thoms. Skand. Col. III, 202; Rey Brévip. 1880, 290; Ganglb. Käf. M. II, 745. - Eusphalerum + Anthobium Kraatz Ins. D. II, 1003, 1005).

From all the preceding Omalini genera it is separated in that, the first four joints of all tarsi in both sexes are dilated and long haired fringed. Furthermore the following remarks:

The body is rather flat, most often short and proportionately broad;

the head narrower than pronotum, posteriorly with short neck-shaped constriction, with very short or without developed temples, and with large, strongly protruding eyes, ocelli of the vertex distinct, and the forehead-foveae before these and at the fore-margin more or less distinctive, the antennae thickened toward the tip, and with four-five larger distal joints; pronotum broader than long, narrower than elytra; these often pro-



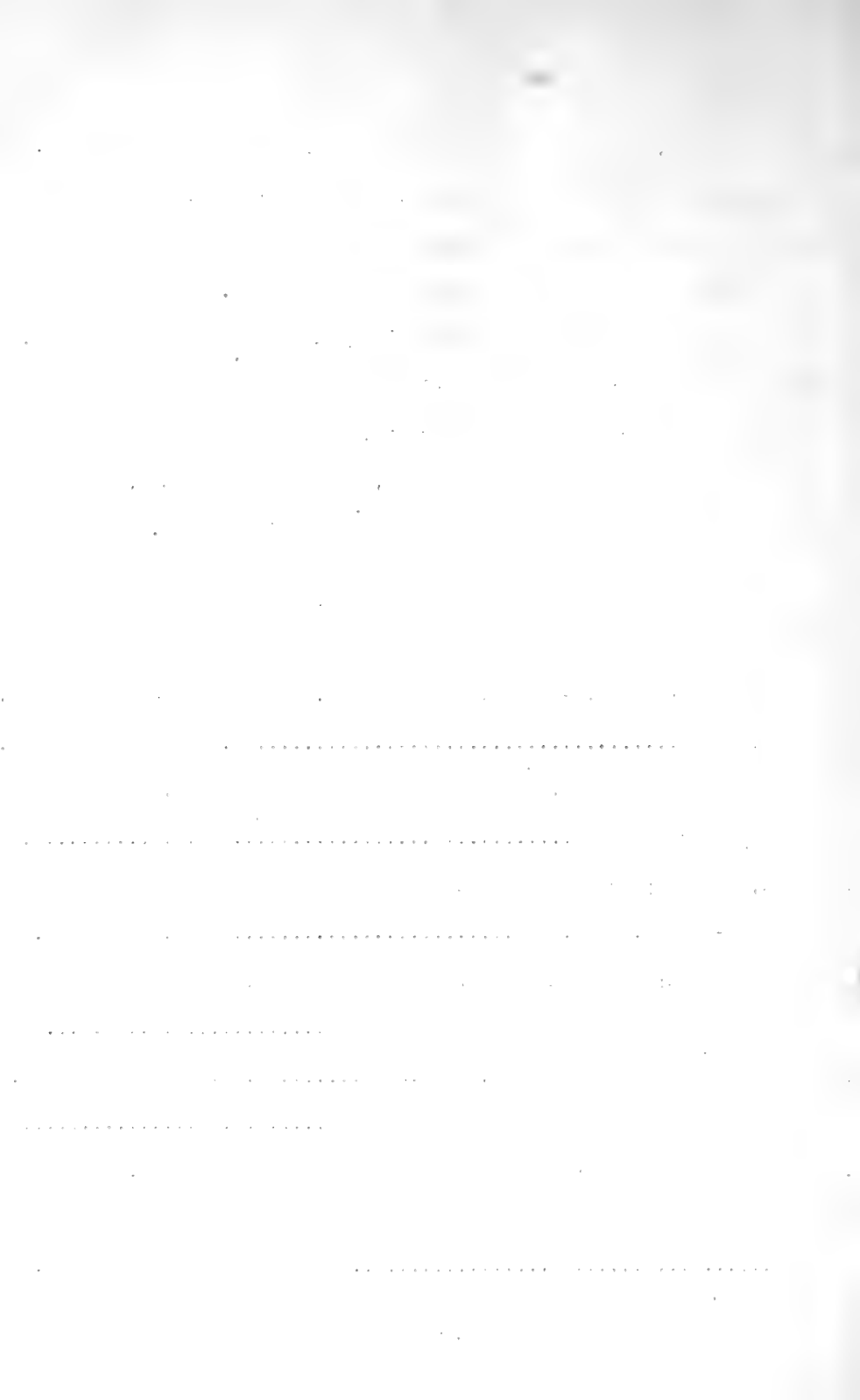
portionately long, sometimes covering abdomen almost to the tip, or entirely; abdomen broad, broadly margined, short tapering; legs rather short, tibiae occasionally spiniferous (Subgenus Eusphalerum), hind tarsal claw-joint as long as the first four, short joints together.

In the ♂ the fore tarsi are more strongly dilated than in the ♀ etc., and in the ♀ the sutural corners of elytra are often acutely elongated.

Of the species belonging to this genus, which namely are numerous in the mountainous regions of Middle Europe, and live on flowers, often in great numbers together, only a few are found in this country.

Key to Subgenera and Species.

1. Tibiae spiniferous. Mandibles rather strongly prominent: 1. Subgenus Eusphalerum Kr. - Black, elytra brown, rather coarsely punctated.
 L. 3 mm..... 1. A. primulae Steph.
- Tibiae not spiniferous. Mandibles scarcely prominent: 2. Subgenus Anthobium s. str..... 2.
2. Black; elytra pitch-brown; antennal base, mouth-parts, and legs reddish-yellow. L. 2.5 mm..... 2. A. minutum F.
- Entire body or at least the thorax reddish-yellow, with lighter elytra; metathorax and abdomen sometimes black..... 3.
3. Metathorax and abdomen black. L. 2.5 mm..... 3. A. torquatum Marsh.
- Metathorax reddish-yellow like the thorax..... 4.
4. Head and pronotum very densely and rather finely punctated. Entire body reddish-yellow in both sexes. L. 2.5 mm.;.....
 4. A. ophthalmicum Payk.



4...Head and pronotum with very scattered, indistinct punctation. Abdomen in the ♂ black or brown. L. 1.5-2 mm..... 5. A. sorbi Gyllh.

1. Subgenus Eusphalerum Kr.

1. A. primulae Steph.

(Steph. Ill. Brit. V, 365; Ganglb. Käf. M. II, 750. - triviale Erichs. Käf. Mk. Br. I, 639; Gen. Spec. Staph. 892; Kraatz Ins. D. II, 1004; Pey Brévip. 1880, 313).

Larger than minutum, which it somewhat resembles; among the following easily identified by spiniferous tibiae.

Black, somewhat glistening with feeble greasy reflection; thorax naked, abdomen sparsely haired; pronotal side-margins and elytra reddish-brown; antennae toward tip often brownish, otherwheres together with mouth and legs reddish-yellow.

Body more elongate than in minutum and of more even breadth, rather flat; the head somewhat narrower than pronotum, with very strongly protruding eyes, finely and sparsely punctated, the surface densely shagreened, inside eyes finely longitudinal aciculated, with two short foveae before ocelli of the vertex, and two flatter impressions at fore-margin,

antennae rather slender, slightly thickened distally; pronotum narrower than elytra, narrowing posteriorly, with anteriorly rounded sides and obtuse angular hind corners, slightly convex, finely and densely punctated, the surface densely shagreened, most often with a small impression posteriorly before scutellum. Elytra more than twice as long as pronotum. rather parallel, posteriorly evenly truncated, rather coarsely and densely

punctated; abdomen with scattered and especially fine punctation; the tibiae, especially the middle ones, distinctly spiniferous. L. 3 mm.

In the ♂ the antennae are more slender, fore-tarsi more strongly dilated, fore and middle-femora thicker, and middle-tibiae more distinctly curved than in the ♀.

Distributed in Middle Europe. In this country very rare and local; heretofore found only in the vicinity of Roskilde (Boserup, Lejre) in the flowers of cowslip (Primula elatior) and hawthorn, occasionally very numerous.

2. Subgenus Anthobium s. str.

2. A. minutum Fabr.

(Fabr. Ent. Syst. I, 254; Erichs. Käf. Mk. Br. I, 638; Gen. Spec. Staph. 896; Kraatz Ins. D. II, 1010; Thoms. Skand. Col. III, 202; Rey Brévip. 1880, 305; Ganglb. Käf. M. II, 749. - ranonculi Gravh. Micr. 118).

Among the following species easily identified by the color.

Black, somewhat glistening; abdomen sparsely haired; elytra, sometimes also pronotal side-margins pitch-brown, more rarely reddish-brown; antennal base, mouth and legs reddish-yellow.

Body short and rather flat, posteriorly broadened (Fig. 188); head with very fine and scattered punctation, and together with the broader pronotum very densely shagreened in surface, foveae of forehead before ocelli very small, and the impressions at fore-margin feeble, antennae thickened distally; pronotum narrower than elytra, $1\frac{1}{2}$ times as broad as long, posteriorly hardly narrowing, with feebly rounded sides, slightly convex, finely and densely punctated, side-margins above hind corners slightly impressed; elytra more than twice as long as pronotum, posteriorly broadened, rather ro-

bustly and densely punctated, often covering the abdomen nearly to the tip. L. 2.5 mm. ----- Fig. 188. Anthobium minutum Fabr. ♀.

In the ♂ the elytra are posteriorly rounded off and tibiae at base feebly curved; in the ♀ the elytra are posteriorly obliquely rounded off, and the sutural corners rather acutely elongate.

Distributed throughout Europe. In Denmark it is not common everywhere; most frequent in our wooded regions on flowering bushes and small plants.

- The larva is found numerously in molehills, and reared by Hr. Rosenbergs (2. 5. 1895)

3. A. torquatum Marsh.

(Marsh. Ent. Brit. I, 127; Ganglb. Käf. M. II, 751. - scutellare Erichs. Jen. Spec. Staph. 895; Kraatz Ins. D. II, 1016; Rey Brévip. 1880, 329).

Among our yellow colored species recognized by black abdomen of both sexes. In form most like minutum.

Peddish or brownish yellow, feebly glistening, especially finely, and short haired; elytra most often lighter than head and pronotum; neck, scutellum, metathorax and abdomen black, or the former darkly brown; antennae toward the tip brownish.

Head and pronotum with very fine and rather isolated punctation, the surface very finely shagreened, foveae of forehead before ocelli small, but distinct, those by the fore-margin nearly obsolete, antennae thickened distally; pronotum narrower than elytra, $1\frac{1}{2}$ times as broad as long, feebly narrowing posteriorly, with smoothly rounded sides, slightly convex, before hind corners narrowly impressed, in middle-line sometimes slightly grooved; elytra more than twice as long as pronotum, with rather robust and dense,

at middle often with indication of rowed punctation; abdominal tip extremely finely or indistinctly punctated. L. 2.5 mm.

In the ♂ the posterior margin of elytra is rounded off, in the ♀ obliquely rounded off with acute angular produced sutural corners.

Distributed in Middle Europe; with us it is local, most frequent in the islands, rarer in the wooded regions of Jutland; in flowers.

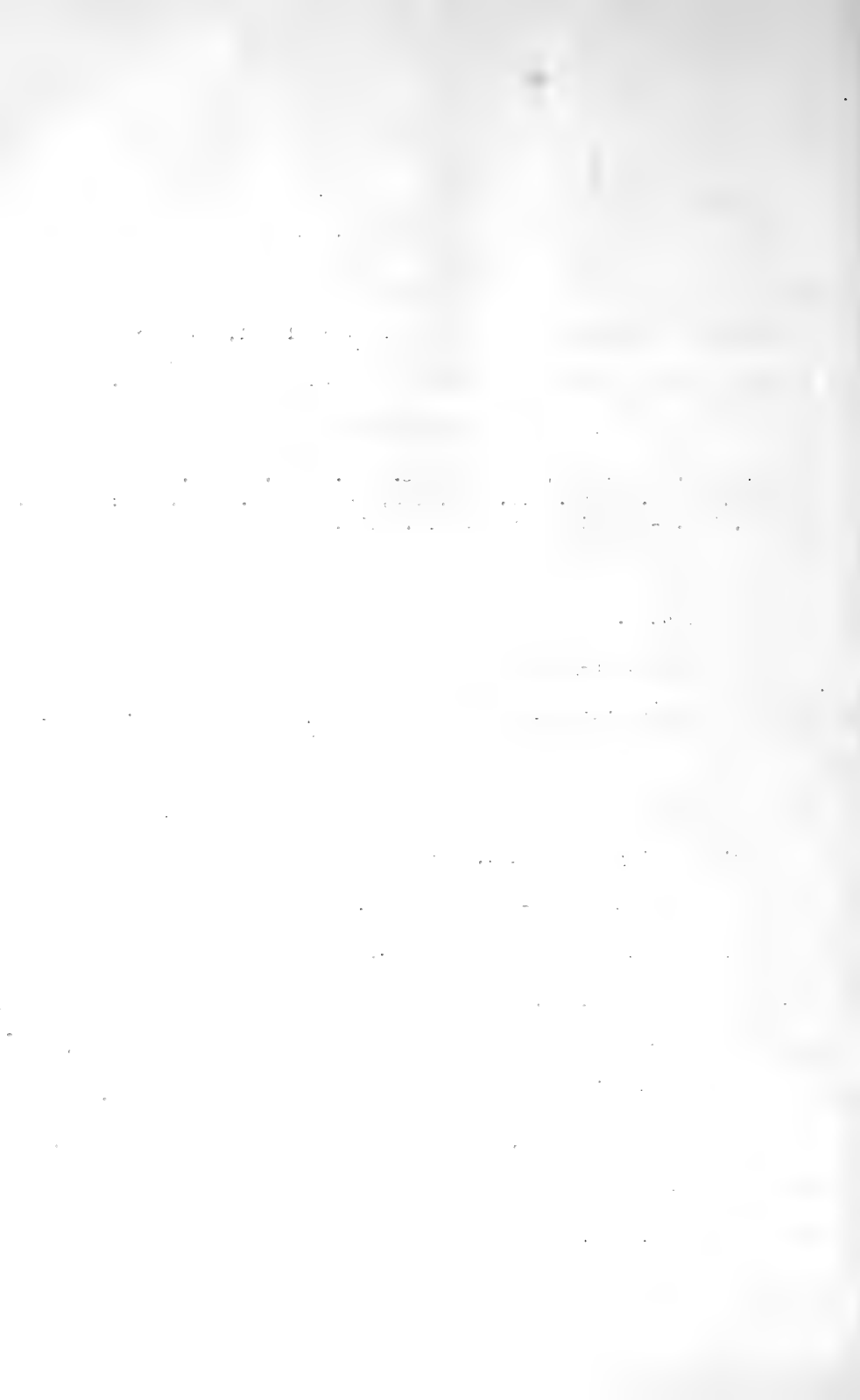
4. A. ophthalmicum Payk.

(Payk. Faun. Suec. III, 409; Erichs. Gen. Spec. Staph. 894; Kraatz Ins. D. II, 1017; Thoms. Skand. Col. III, 203; Rey Brévip. 1880, 343; Ganglb. Käf. M. II, 752. - pallidum Gravh. Mon. 217).

Easily identified by the color as well as by the very dense punctation of head and pronotum.

Unicolorous reddish-yellow or with somewhat lighter elytra, somewhat glistening; abdomen extremely finely haired; antennae sometimes brownish toward the tip.

The head densely and rather deeply punctated, inside the eyes very finely longitudinally aciculated, forehead foveae before the ocelli very small, and those at the fore-margin feeble, the antennae feebly thickened distally; pronotum twice as broad as long, somewhat narrower than elytra, with slightly rounded sides, flatly convex, very densely and rather finely punctated, the surface very densely shagreened and due thereto dull, in middle-line often feebly grooved or only with a trace of grooves. Elytra are twice as long as pronotum, densely and rather robustly punctated, posteriorly faintly broadened; abdominal tip especially finely and rather densely punctated. L. 2.5 mm.



In the ♂ the fore-tarsi are more strongly dilated than in the ♀, and in the latter the elytra are posteriorly more obliquely rounded off inward toward the sutural corners than in the ♂; sutural corners however not produced.

Distributed in Middle and North Europe. In this country rare (North Sjaelland, Falster; Ris Forest at Aarhus, Taps at Kolding, Rødekro in North Sleswick), in flowers.

5. A. sorbi Gyllh.

(Gyllh. Ins. Suec. II, 206; Erichs. Käf. Mk. Br. I, 640; Gen. Spec. Staph. 895; Kraatz Ins. D. II, 1018; Thoms. Skand. Col. III, 203; Rey Brévip. 1880, 335; Ganglb. Käf. M. II, 752. - ophthalmicum Gravh. Mon. 216 and testaceum Gravh. Mon. 218).

Very short and small, smallest species of the genus.

Peddish-yellow with straw-yellow elytra, rather glistening; abdomen extremely finely, sparsely haired; abdomen in the ♂ black or brown; antennal club brownish; eyes black.

Head and pronotum extremely feebly, indistinctly punctated, but the surface densely shagreened, foveae of forehead indistinct, antennae thickened distally; pronotum nearly twice as broad as long, narrower than elytra, the sides slightly rounded, posteriorly very feebly impressed, dorsum elsewhere slightly convex; elytra more than twice as long as pronotum, posteriorly broadened, rather densely and finely punctated; abdominal tip with extremely fine, scarcely visible, scattered punctation. L. 1.5-2 mm.

In the ♂ the fore-tarsi are more strongly dilated than in the ♀, and femora distinctly thickened, abdomen black, and the sutural angle of elytra right, in the ♀ rounded off.

(Page 625)

Distributed in Middle and North Europe. In this country rather common and especially in the woodland regions often very numerous on flowering plants (hawthorn, arrowwood, queen of the meadow, et al.).

9. Group Proteinini.

(Erichs. Käf. Mk. Br. I, 641; Gen. Spec. Staph. 901 (ex parte); Kraatz Ins. D. II, 1019; Ganglb. Käf. M. II, 756. - Proteinides Thoms. Skand. Col. III, 217. - Proteininiens+Phleobiens Muls. et Rey Brévip. 1878, 217).

Prothorax back of fore-coxae chitinized, and the spiracula here covered.

The head without ocelli or with only one ocellus at middle of vertex.

Antennae 11-jointed, inserted before the eyes under side-margin of forehead.

Fore-coxae broadly cylindrical, short and of little prominence. Hind-coxae flat, the hindmost trochanter large, "appressed." *Tarsi 5-jointed. Body short and proportionately broad.

To this group only 3, to Omalini closely allied genera.

Key to Genera.

1. Antennae toward tip claviform thickened with several larger distal joints.

Pronotum not grooved in middle-line, its hind-corners entire.....

.....121. Proteinus Latr.

- Antennae not clavate, only with a somewhat larger distal joint. Pro-

notum sharply middle-grooved, its hind-corners with an angular incision.....2.

2. Head small; eyes rather large; side-margin of forehead before the eyes

not dilated. Vertex without ocelli..... 122. Magarthrus Steph.

- Head large, broad; eyes rather small. Side-margins of forehead before

eyes lobiform dilated. Vertex with an ocellus at middle.....

.....123. Phleobium Er.

121. Genus Proteinus Latr.

(Latr. *Precis* Car. gen. Ins. 1796. 9; Erichs. Käf. Mk. Br. I, 642; Gen. Spec. Staph. 902; Kraatz Ins. D. II, 1022; Thoms. Skand. Col. III, 217; Muls. et Rey Brévip. 1878, 218; Ganglb. Käf. M. II, 757).

The body is short, oval, rather convex; the head small, much narrower than pronotum, constricted behind, without temples, with rather large, protruding eyes and without ocelli on the vertex, forehead above antennal base slightly impressed; antennae short, their first joints thick, the middle ones small, the two-three next-last transverse, and in connection with the large rounded distal joint forming a distinct club; maxillary palpi short, their second joint thickened, the third short, distal joint styliform and thinner, as long as the two preceding joints together.

Pronotum is broad, posteriorly a little narrower than elytra, narrowing anteriorly, with slightly rounded sides, rounded off fore-corners and rectangular hind corners, -- (Page 627)----- convex, without middle-groove; elytra rather convex, proportionately long, covering the greater part of abdomen, which is short, roundly tapering, with upturned side-margins; the first ventral joint of abdomen at middle with a small carina or boss, which however often is indistinct. The legs are short, tibiae not spiniferous, tarsi 5-jointed, first joint of hind tarsi rather elongate, as long as the claw-joint.

The species live in fungi; of 5 known middle European only 3 are found in Denmark.

Key to Species.

1. Posterior margin of pronotum especially finely, yet (suitably magnified)

distinctly margined. First joint of antennae reddish-yellow or brownish. L. 1.5-2 mm..... 1. P. brachypterus F.

- Posterior margin of pronotum not margined. First two joints of antennae, or more are reddish-yellow..... 2.

2. First two joints of antennae reddish-yellow, the middle ones often brownish-red. L. 1.5 mm..... 2. P. macropterus Gyllh.

- Antennae reddish-yellow with brownish club. The species smaller. L. 1 mm..... 3. P. atomarius Er.

1. P. brachypterus Fabr.

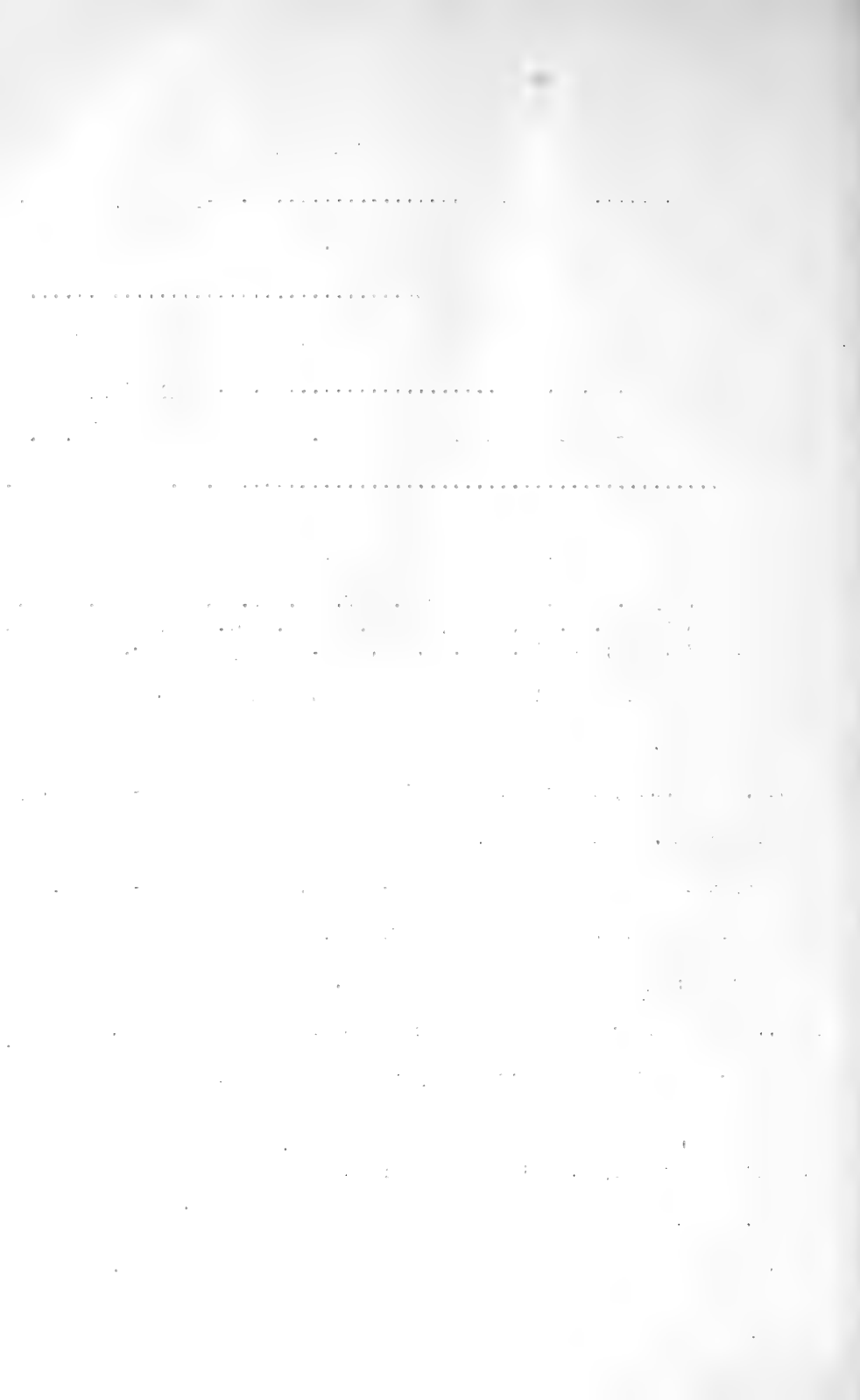
(Fabr. Ent. Syst. I, 1. 235; Erichs. Käf. Mk. Br. I, 642; Gen. Spec. Staph. 603; Kraatz Ins. D. II, 1024; Thoms. Skand. Col. III, 217; Muls et Rey Brévip. 1878, 223; Ganglb. Käf. M. II, 759. - ovatus Gravh. Mon. 215).

The largest of our species, and besides this recognizable by the color of antennae.

Black, somewhat glistening, sparsely haired; elytra pitch-black or pitch-brown; hind corners and posterior margin of pronotum often reddish; antennal base brownish or the first joint reddish-yellow; legs reddish-yellow.

Head and pronotum with densely and finely, yet distinctly shagreened surface, but hardly punctated; pronotum (Fig. 189) more than twice as broad as long, before the rectangular hind corners slightly impressed, posterior margin especially finely margined; elytra more than twice as long as pronotum, convex and posteriorly slightly roundly-broadened, rather finely and densely punctated; abdominal tip extremely finely and rather densely punctated. L. 1.5-2 mm.

In the ♂ the first two joints of the fore-tarsi are dilated.



Very common everywhere in North and Middle Europe, and often in great numbers in rotting fungi.

A very closely allied, a little larger, more oblong and somewhat flatter species, P. ovalis Steph., with posteriorly margined pronotum, pitch-brown antennal base, and in the ♂ with curved middle-tibiae, occur in North Germany and England. May possibly also be discovered in this country.

2. P. macropterus Gyllh.

(Gyllh. Ins. Suec. II, 209; Erichs. Käf. Mk. Br. I, 643; Gen. Spec. Staph. 903; Kraatz Ins. D. II, 1025; Thoms. Skand. Col. III, 217; Muls. et Rey Brévip. 1878, 227).

Much like the preceding species, but as a rule a little smaller; first two joints of antennae are reddish-yellow, the middle ones often reddish- or yellowish-brown, their club more strongly thickened; pronotum more plumply convex, scarcely impressed before the hind corners, posterior margin not margined; elytra more strongly convex, with finer punctation. L. 1.5 mm.

In the ♂ the first two tarsal joints feebly dilated, and middle-tibiae curved, hind-tibiae at middle on inside feebly incurvate, and beneath the curve densely haired.

Distributed in Middle and North Europe. More rare in this country than brachypterus and more local; most frequent in the islands, rarer in Jutland.

3. P. atomarius Er.

(Erichs. Gen. Spec. Staph. 904; Kraatz Ins. D. II, 1025; Thoms. Skand. Col. III, 218; Muls. et Rey Brévip. 1878, 230; Ganglb. Käf. M. II, 760).

A very small species, only about half as large as macropterus; black

with brownish elytra; antennae, with exception of the brownish club, and legs purely reddish-yellow.

Antennal club strongly thickened; pronotum and elytra less convex than in macropterus. Tibiae in the ♂ straight. L. 1 mm.

Particularly rare; in this country heretofore found only singly at Rønne (9. 1870 W. Schlick) and at Hillerød (9. 1903 Author) in fungi.

122. Genus Megarthus Steph.

(Steph. Ill. Brit. V, 330; Erichs. Käf. Mk. Br. I, 643; Gen. Spec. Staph. 904; Kraatz Ins. D. II, 1026; Thoms. Skand. Col. III, 218; Muls. et Rey Brévip. 1878, 232; Ganglb. Käf. M. II, 760).

The body (Fig. 190) is rather broad and flat; the head proportionately small, nearly triangular, immediate behind the prominent, large eyes constricted, forehead at middle slightly convex, and with a flat, broad longitudinal impression on each side inside the eyes,, vertex without ocelli; antennae from the third joint thin, the first two joints thickened, the middle ones, especially the third and fourth, fine, the next-last (6-10) of equal thickness, somewhat rounded or a little oblong, the distal joint larger than the preceding, oval; fourth joint of maxillary palpi nearly as long as the two preceding joints together, and a little thinner than these, feebly tapering.

Pronotum about as broad as elytra, broader than long, anteriorly slightly narrowing, with more or less broadly set off side-margin, sharply and entirely middle-grooved, and with an angular incision in each hind corner; elytra nearly twice as long as pronotum, with a longitudinal impression along side-margin, and rounded off outer hind corners, posteriorly evenly truncated;

abdomen roundly tapering, with broadly upturned side-margins; legs rather short, tibiae not spiniferous, tarsi 5-jointed, hind tarsal claw-joint scarcely as long as the first and second joint together.

In the ♂ distinct sex-characters appear both on legs and on next-last ventral abdominal joints.

The species live in rotting plant-waste, fungi, at carrion and outflowing fermenting tree-sap. Of those in Middle and North Europe distributed 6 species, 3 or 4 occur in this country.

Key to Species.

1. Antennae entirely dark, black or blackish-brown.....2.
- Antennae at base reddish-yellow.....3.
2. Pronotal sides smoothly rounded. L. 2.5-3 mm.....1. M. depressus Payk.
- Pronotal sides back of middle feebly, yet distinctly angulate. L. 2.5-3 mm.....2. M. sinuaticollis Lac.
3. Body pitch-black or pitch-brown, pronotal sides and elytra brownish-red. L. 2.5-3 mm.....3. M. denticollis Beck.
- Body yellowish-red with black head. L. 2.5-3 mm.: 4. M. hemipterus Illig.

1. M. depressus Payk.

(Payk. Mon. Staph. 70; Erichs. Käf. Mk. Br. I, 644; Gen. Spec. Staph. 905; Kraatz Ins. D. II, 1027; Thoms. Skand. Col. III, 218; Muls. et Rey Brévip. 1878, 235; Ganglb. Käf. M. II, 762. - macropterus Gravh. Mon. 215).

Easily identified by entirely black antennae, and smoothly rounded sides of pronotum.

Black, somewhat glistening; very finely haired; legs rust-red, often with darker femora; elytra sometimes brown.

The head (see above) is very densely shagreened and rugosely punctated, on each side inside eyes with a flat impression, and in each a fine, oblique groove posteriorly; pronotum twice as broad as long, with smoothly rounded, posteriorly impressed sides and obtuse-angular incised hind corners, posteriorly about as broad as elytra, anteriorly narrowing, slightly convex, with rather fine, dense scabrous punctation, in middle-line entirely and sharply grooved; elytra nearly twice as long as pronotum, with dense and rather robust scabrous punctation; abdomen especially finely, rather densely punctated. L. 2.5-3 mm.

In the ♂ the hind femora are thickened, hind tibiae slightly curved, beneath middle on inner side feebly incurvate and haired; sixth ventral abdominal joint broadly, rounded emarginate, the seventh greatly produced.

Common everywhere in this country in decaying plant-waste, fungi, carrion ect., often in great numbers; distributed throughout the greater part of Europe.

2. M. sinuatocollis Lac.

(Boisd. Lacord. Faun. Ent. Paris. I, 493; Erichs. Gen. Spec. Staph. 905; Thoms. Skand. Col. III, 218; Kraatz Ins. D. II, 1029; Muls. et Rey Brévip. 1878, 243; Ganglb. Käf. M. II, 762).

Black or pitch-brown, somewhat greasy glistening, very finely haired; abdominal tip brownish-red, ventral side often reddish-yellow; pronotal sides and elytra often reddish-brown; legs rust-red.

Very closely allied to depressus, from which it, next after the difference in color, mainly is separated by, that pronotum is more than twice



as broad as long, with rather broadly depressed sides and strongly emarginated hind corners, the sides are not smoothly rounded, but back of middle form an obtuse angle with a distinct curve back of, and a longer, less distinct one, in front of same, dorsum with robust and dense scabrous punctation, sharply middle-grooved. Elytra about twice as long as pronotum, with somewhat more robust scabrous punctation than same; abdomen finely and not densely punctated. L. 2.5-3 mm.

In the ♂ the femora of middle and hind legs thickened, and the tibiae curved, besides this, these are on inner side finely haired, and particularly finely notched; sixth ventral abdominal joint feebly emarginated, the seventh more deeply emarginated.

In rotten fungi and other decaying plant stuff, also under carrion. Distributed in Europe, N. Asia and N. America; not as common in this country as the preceding species.

3. M. denticollis Beck.

(Beck. Beitr. 26. T. 7. Fig. 40; Gen. Spec. Staph. 906; Kraatz Ins. D. II, 1030; Thoms. Skand. Col. III, 219; Muls. et Rey Brévip. 1878, 246; Ganglb. Käf. M. II, 762. - marginicollis Erichs. Käf. Mk. Br. I, 644).

Easily identified especially by the color of antennae and pronotum, and by the sex-characters of ♂.

Pitch-black or pitch-brown, feebly glistening, especially finely and short haired; pronotal sides brownish-reddish-yellow; elytra and abdominal tip brownish-red; first joint of antennae and legs yellowish-red.

The head with very dense and rather fine rugose punctation, middle-line obtusely carinated; pronotum (Fig. 190) $2\frac{1}{2}$ times as broad as long,



with broadly set off, impressed, back of middle feebly rounded sides, and rectangular; acutely incised hind corners, dorsum slightly convex, with very dense and rather robust scabrous punctation, sharply and entirely middle-grooved, scutellum likewise and most often distinctly middle-grooved; elytra approximately twice as long as pronotum, as densely as, and somewhat more robustly scabrously punctated than this; abdomen with very fine and dense, somewhat scabrous punctation. L. 2.5-3 mm.

In the ♂ the middle and hind femora are thickened, and the hindmost trochanter very strongly developed, middle-tibiae arcuate, hind tibiae on inner side calf-shaped dilated, beneath the calf incurvate and elongated into a curved, robust tip. The sixth ventral abdominal joint is broadly and strongly semicircularly incurvate, the seventh less strongly and broadly incurvate.

In fungi, under rotten plants, at fermenting tree-sap etc., distributed and not rare in this country. North and Middle Europe.

4. M. hemipterus Ill.

(Illig. Schneid. Mag. V, 597; Erichs. Käf. Mk. Br. I, 645; Gen. Spec. Staph. 906; Kraatz Ins. D. II, 1031; Thoms. Skand. Col. III, 219; Muls. et Rey Brévip. 1878, 249; Ganglb. Käf. M. II, 763. - depressus var. c. Gyllh. Ins. Suec. III, 699).

Easily separated from the preceding species by the color. Rust-red, dull or dully glistening, very finely haired; the head, with exception of mouth-parts, black; antennae toward tip brownish.

Dorsal side of body is punctated like that of preceding species; pronotum $2\frac{1}{2}$ times as broad as long, with very broadly set off impressed, al-

most smoothly rounded sides and incised hind corners, the incision forms with the side-margin an obtuse, with posterior margin an acute angle, the corner of which is sharply, almost dentiform. Elytra about twice as long as pronotum. L. 2.5-3 mm.

In the ♂ the middle and hind femora are thickened, middle-tibiae slightly curved, the trochanter of hind legs at middle of inner rim feebly dentate, hind tibiae on inner side above the middle strongly dentiform dilated, and at middle deeply emarginate; sixth ventral abdominal joint feebly, the seventh deeply semicircularly incurved. (Kraatz and Ganglb.).

Distributed; in Middle Europe rather frequent in decaying fungi, in North Europe (Sweden) very rare; in this country not unlikely, heretofore however not found.

123. Genus Phloeobium Er.

(Erichs. Gen. Spec. Staph. 907; Kraatz Ins. D. II, 1032; Muls. et Rey Brévip. 1878, 254; Ganglb. Käf. M. II, 764. - Metopsia Woll.).

Very closely allied to Megarthus, from which it mainly is separated by, that the head is much broader, strongly transverse, and with an ocellus at middle of vertex; the temples are rather long, strongly oblique inwards, eyes rather small, clypeus broadly flattened out, anteriorly flatly emarginated, side-margins of forehead before the eyes dilated into a rounded, short lobe, which is separated from the fore-margin by a small, narrow incision (Fig. 191). Pronotum is very strongly transverse, as broad as elytra, with broadly set off, flat sides and flatly incised hind corners. in middle-line finely grooved; elytra, legs, and sex-characters of ♂ about same as in Megarthus.

To this genus only 1 middle European species, which also is found here.

1. Ph. clypeatum Mull.

(Mull. Germ. Mag. IV, 204; Erichs. Käf. Mk. Br. I, 646; Gen. Spec. Staph. 907; Kraatz Ins. D. II, 1033; Muls. et Rey Brévip. 1878, 256; Ganglb. Käf. M. II, 764).

In connection with the denoted generic characters recognizable by the color.

Brownish- or reddish-yellow, dull, very finely haired; head and pronotum at middle often, occasionally also the elytra darker; antennae pitch-brown or pitch-black, with exception of the most often yellow distal joint.

(Page 632)

The body (Fig. 191) is of even breadth, oblong, feebly convex; the head broad, yet a little narrower than pronotum, with very dense and coarse scabrous punctation, antennae rather slender, feebly thickened distally, with a larger, ovate distal joint; pronotum (see above) twice as broad as long, anteriorly feebly narrowing, with almost rectangular fore-corners, indistinctly notched side-margins and very flatly, angularly incised hind corners, dorsum within the broadly set off, flat side-margins rather convex, with coarse and dense rugose punctation, in middle-line feebly grooved. The elytra are more than twice as long as pronotum, smoothly convex, coarsely and densely punctated; andomen with rather dense and fine scabrous punctation. L. 2.5-3 mm.

In the ♂ the femora of middle and hind legs are somewhat thickened, and the tibiae curved; the sixth ventral abdominal joint is strongly incurvate and in the middle-line feebly grooved.

Distributed in Middle Europe. In Denmark rare, and singly in forest regions under bark of stubs, at tree-sap, in fungi and under mouldy leaves. In Sweden and Norway it is heretofore not found.

10. Group Phloeocharini.

(Erichs. Käf. Mk. Br. I, 612; Gen. Spec. Staph. 842; Kraatz Ins. D. II, 1034; Ganglb. Käf. M. II, 692. - Phloeocharina Thoms. Skand. Col. III, 113. - Phloeochariens Muls. et Rey Brévip. 1878, 191).

Prothorax chitinized behind the fore-coxae, and the spiracula here covered. Antennae 11-jointed, inserted before the eyes under side-margin of forehead. Fore-coxae tap-shaped, prominent; hind coxae broad, the hindmost trochanter large, "appressed," tarsi 5-jointed. The body narrow.

To this group only 1 genus in this country, closely allied to Omalini, but without ocelli, and with shorter elytra.

124. Genus Phloeocharis Mannh.

(Mannh. Brach. 50; Erichs. Käf. Mk. Br. I, 612; Gen. Spec. Staph. 844; Kraatz Ins. D. II, 1037; Thoms. Skand. Col. III, 113; Muls. et Rey Brévip. 1878, 196; Ganglb. Käf. M. II, 693).

The body is narrow, of rather even breadth and elongate (Fig. 192), feebly convex; the head porrect, triangular, up to the eyes embedded in pronotum; the eyes strongly protruding; forehead flat, without impressions and without boundary between forehead and clypeus; antennae rather short and robust, gradually thickened distally, their next-last joints transverse; third joint of maxillary palpi thickened, the last small and fine, spiciform.

Pronotum is as broad or fully as broad as elytra, fore and hind evenly truncated, sides slightly rounded, dorsum smooth, without distinct impressions; elytra proportionately short, posteriorly evenly truncated; abdomen

rather evenly broad and elongate, with set off side-margins, posteriorly tapering; the legs rather short, tibiae somewhat broadened toward tip, not spiniferous, tarsi short, their claw-joint as long as the first four joints together, first four joints of fore-tarsi feebly dilated.

To this genus only 1 species, which lives under bark.

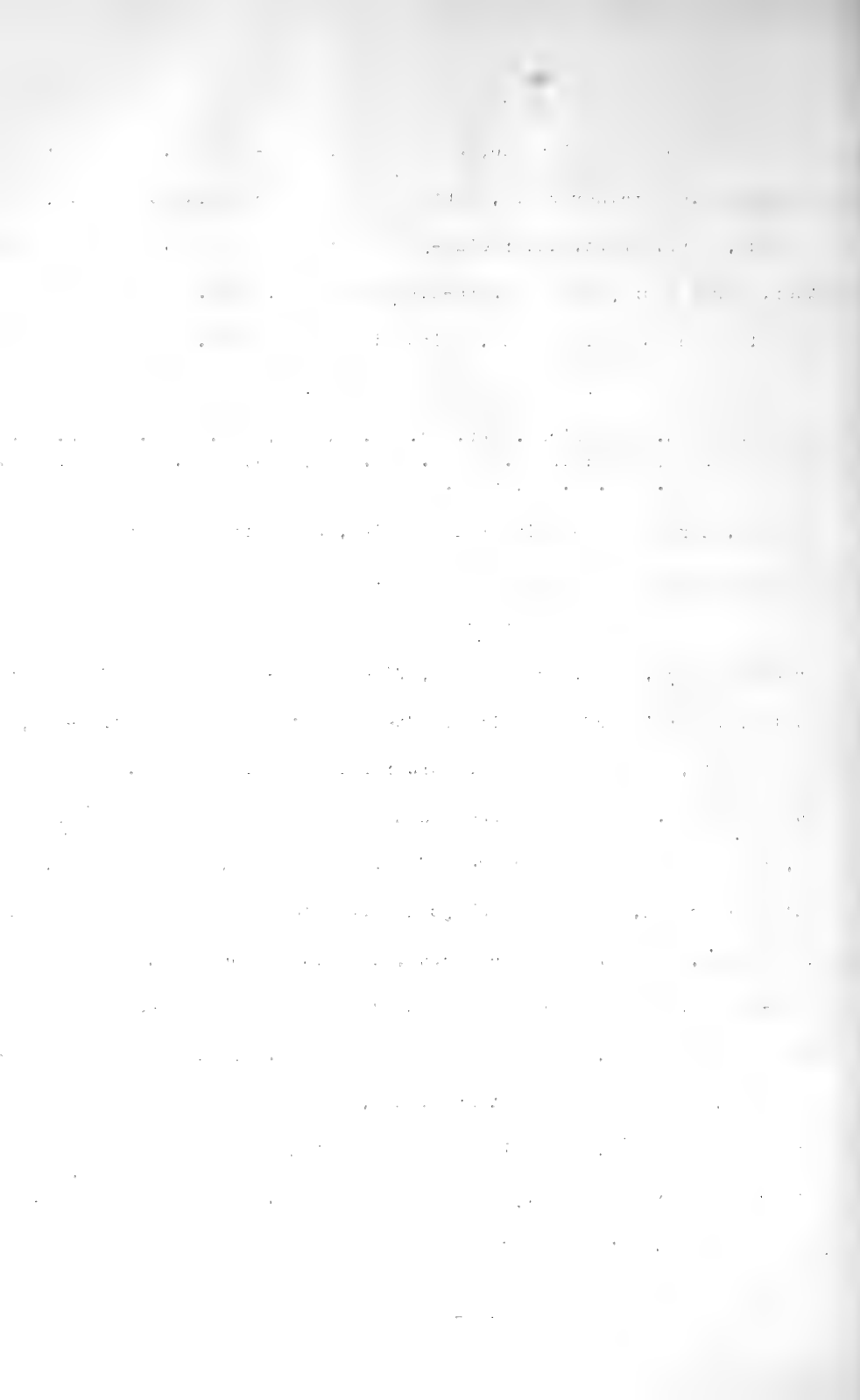
1. Ph. subtilissima Mannh.

(Mannh. Brach. 50; Erichs. Kkf. Mk. Br. I, 612; Gen. Spec. Staph. 845; Kraatz Ins. D. II, 1038; Thoms. Skand. Col. III, 114; Muls. et Rey Brévip. 1878, 198; Ganglb. Kkf. M. II, 694).

A small, narrow and evenly broad species, which in appearance somewhat resembles an Oxypoda of subgenus Demosoma.

Brownish black, feebly glistening, finely gray-haired; tip of abdomen and posterior margins of its joints, often also the elytra brownish-red; antennae, mouth, and legs reddish, more rarely brownish yellow.

The head (Fig. 192) is narrower than pronotum, with rather large, prominent, round eyes, the surface very finely shagreened, not punctated, and without impressions, the first two joints of antennae somewhat thickened, the third fine, shorter than the second, the middle ones rounded and with the next-last gradually thickened distally, so that these (9-10) become twice as broad as long, distal joint is short oval. Pronotum is proportionately large, a little broader than elytra, $1\frac{1}{2}$ times as broad as long, with slightly rounded sides, smoothly convex, very finely shagreened, but with indistinct or extremely fine, scattered punctation, sometimes with two, very slight indications of longitudinal impressions at middle; elytra a



little longer than pronotum, very finely and rather densely punctated;
abdomen very finely and rather densely punctated. L. 1.5-2 mm.

Under the bark of dead or dying deciduous and pinacious trees; in all
our woodland regions, but rare. Perhaps often overlooked on account of its
smallness. Distributed throughout the greater part of Europe.

11. Group Micropeplini.

(Kraatz Ins. D. II, 1049. - Micropeplidae Thoms. Skand. Col. I, 71; Micropeplides Muls. et Rey Brevip. 1883, 153. - Micropeplinae Ganglb. Käf. M. II, 765).

One from the rest of the staphylinids in many regards considerably deviating group, which by Thomson is placed in the nearness of Mitiduladae as a separate family.

The antennae are only 9-jointed, and the last joint forms a proportionately large, sharply set off distal knob. Prothorax anteriorly at each side with a deep groove for reception of the antennae, and is entirely chitinized with covered spiracula; fore-coxae small and not prominent, hind coxae likewise small, round, and as well as the middle-coxae broadly separated; tarsi 3-jointed.

To this only 1 European genus.

125. Genus Micropeplus Latr.

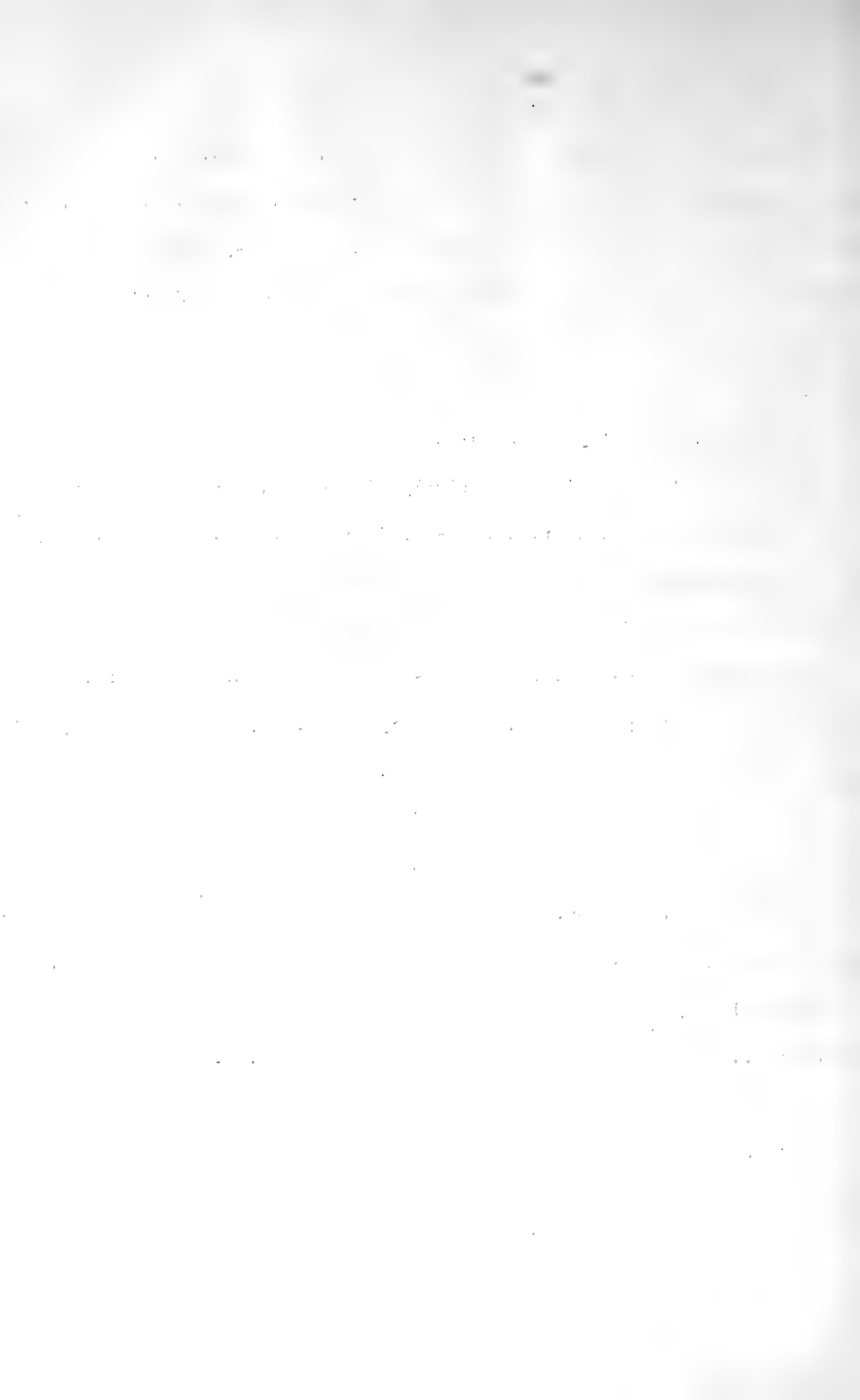
(Latr. Gen. Crust. Ins. IV, 377; Erichs. Käf. Mk. Br. I, 646; Gen. Spec. Staph. 911; Kraatz Ins. D. II, 1050; Thoms. Skand. Col. IV, 195; Fey Brévip. 1883, 153; Ganglb. Käf. M. II, 766).

The body (Fig. 193) is oblong-oval, dorsally and ventrally slightly convex, the dorsum is distinguished by a peculiar, foveate, somewhat ribbed sculpture, which inter alia, makes it easy to identify this genus among all other staphylinids. The head is very much narrower than pronotum, short triangular, and up to the prominent eyes imbedded in pronotum; an-

tennae short, their first two joints thickened, the middle joints rather fine, the last three are connate forming a compact, undivided, thick, ovate distal knob, due to this the antennae are only 9-jointed; maxillary palpi short, their second and third joints thickened, the fourth much thinner, and at least twice as long as the very short, transverse third joint.

Pronotum fits tightly to the elytra, and is posteriorly about as broad as these, slightly narrowing posteriorly with broad, strongly upturned side-margins, broadly outcurved fore-margin and foveate, convex middle; elytra longer than pronotum, ribbed, posteriorly almost evenly truncated; abdomen short, and as broad as elytra, posteriorly roundly tapering with broadly upturned side-margins and many-foveated dorsum; legs short, fine; tibiae linear, not spiniferous; tarsi very short, 3-jointed, distal joint longer than the other two joints together.

The species live in all kinds of rotting plant-waste and is also found in the mould under carrion. About 10 species are distributed in Middle Europe, and of these, 3-4 are found in North Europe and in this country. It is most likely that the larvae can be found under similar conditions as the beetles. The larva of an middle European species, M. staphylinoides, is known and distinguishes itself by a unique appearance, namely produced by, that the joints of pronotum and abdomen are strongly dilated into long, entirely chitinized side-appendages (cf. Ganglb. Käf. W. II, 765, Fig. 34).



Key to Species.

1. Elytra between suture and humeral rib with three dorsal ribs..... 2.
- Elytra between suture and humeral rib with only two dorsal ribs.....3.
2. Body feebly convex, thorax dull. L. 2.5 mm..... 1. M. porcatus F.
- Body rather strongly convex, shorter; thorax and also abdomen glistening. L. 2 mm..... 2. M. caelatus Er.
3. Elytra between ribs punctated. L. 2.5 mm..... 3. M. fulvus Er.
- Elytra between ribs not punctated. L. 1.5 mm.... 4. M. tesseraula Curt.

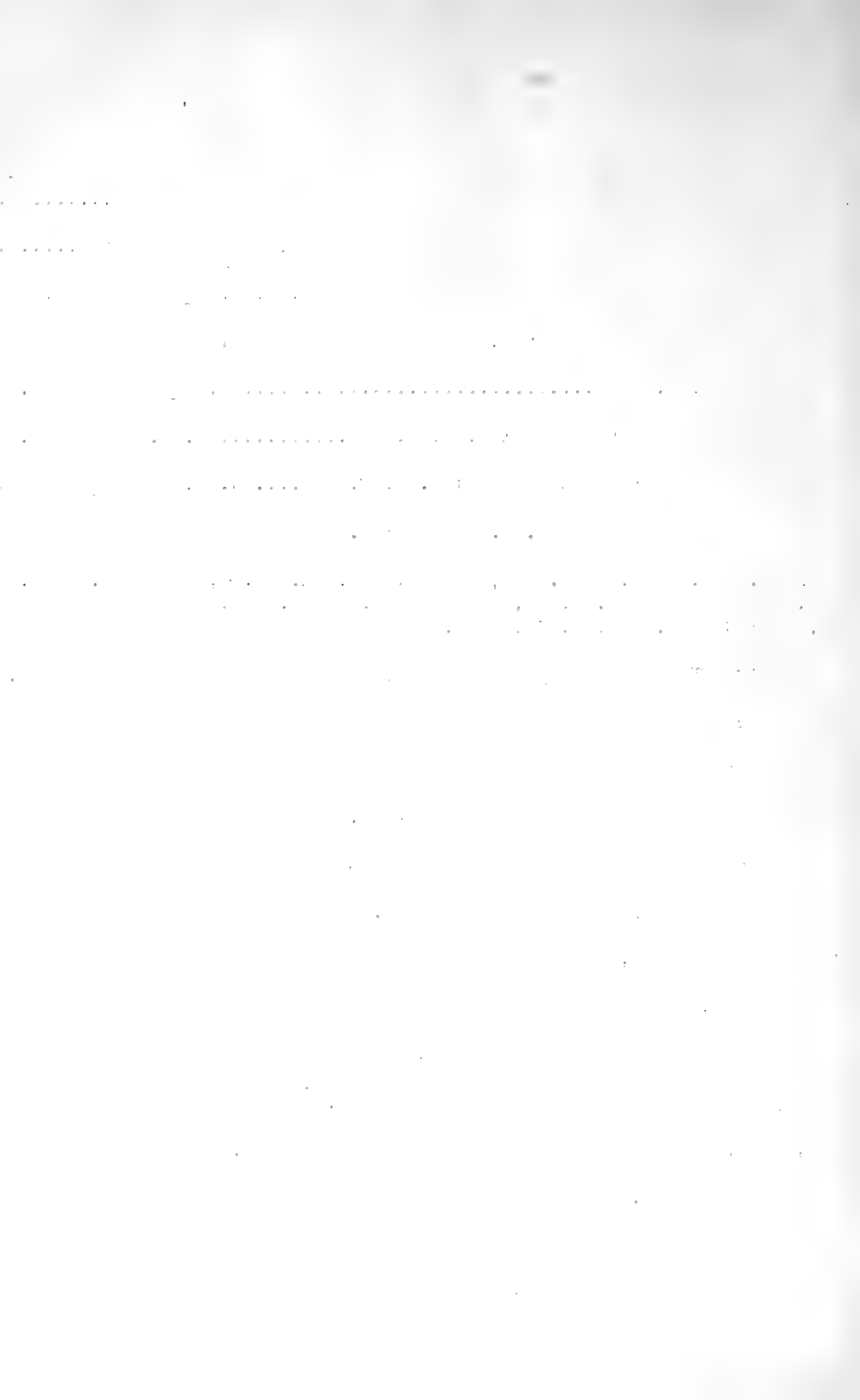
1. M. porcatus F.

(Fabr. Ent. Syst. I, 2. 530; Erichs. Käf. Mk. Br. I, 646; Gen. Spec. Staph. 911; Kraatz Ins. D. II, 1052; Thoms. Skand. Col. IV, 195; Pey Brévip. 1883, 156; Ganglb. Käf. M. II, 768).

Identified especially by three dorsal ribs of elytra and dull thorax.

Deeply black, naked; thorax dull, abdomen somewhat glistening; antennae with exception of the black distal knob, maxillary palpi, legs and a small translucent spot on pronotal sides rust-red.

The head with dense and rather fine scabrous punctation, middle-line extremely finely carinated; pronotum (Fig. 193) twice as broad as long, with broadly set off, upturned or hollowly depressed, and at bottom densely shagreened sides, posteriorly about as broad as elytra, side-margin at middle obtuse angular and pronotum from there forward narrowed, dorsum at middle slightly convex and divided into several, 6-8, most often distinctly separated, flat, scabrously punctated, cell-shaped foveae. Elytra nearly twice as long as pronotum, and posteriorly transversally depressed, with rib-like suture, three ribs on dorsum, one humeral rib from corner of humerus along the side, and an arcuate side-rib outside of this, intervals between the



ribs coarsely, deeply and densely punctated. The first four free dorsal abdominal joints are each, by three longitudinal ridges or sharp carinae divided into four deep, square foveae, which at bottom are smoothly glistening, the foveae of fourth joint are distinct. Metathorax is at middle deeply grooved and impressed. L. 2.5 mm.

In the ♂ the sixth ventral abdominal joint at tip angularly emarginate.

Rare, and most often singly in rotting plant waste, in fungi, under carrion and the like; most frequent in woodland regions. Distributed in the greater part of Europe.

2. M. caelatus Er.

(Erichs. Käf. Mk. Br. I, 647; Gen. Spec. Staph. 912; Kraatz Ins. D. II, 1053; Thoms. Skand. Col. IV, 196; Ganglb. Käf. M. II, 769).

Much like preceding species, but a little shorter and more convex, proportionately broader, rather glistening; the head and middle of pronotum are more coarsely rugose, middle-line of forehead most often distinctly, even though very finely carinated, pronotal foveae only feebly indicated, and the side-margins at middle less distinctly angulate; elytra between the ribs fully as coarsely, but somewhat less densely punctated than in porcatus. Foveae of the fourth free dorsal abdominal joint are only distinct at base. L. 2 mm.

Distributed in North and Middle Europe. In this country very rare, in alluvium (v. Lyngby Lake, Søborg, Sorø); also found in Skaane (Thoms.).



3. M. fulvus Er.

(Erichs. Gen. Spec. Staph. 912; Kraatz Ins. D. II, 1054; Rey Brévip. 1883, 165; Ganglb. Käf. M. II, 769).

Easily identified by the color, and by the two dorsal ribs of elytra.

Brown or blackish-brown, feebly glistening, not haired; pronotal sides, antennae, maxillary palpi, and the legs rust-red; teneral animals may be entirely rust-red.

The body is feebly convex; the head posteriorly with three fine, forwardly directed converging longitudinal carinae, and in the surface at sides and fore-margin densely shagreened. Pronotum fully as broad as elytra, anteriorly narrowing, with smoothly rounded, broadly set-off-depressed and in the surface densely shagreened sides, at middle with about six elongate, cell-shaped impressions or foveae; elytra rather flat, $1\frac{1}{2}$ times as long as pronotum, posteriorly transversally impressed, with ribbedly, fine suture, two robust dorsal ribs, one humeral rib, and closely outside of this and parallel with same a fine side-rib, intervals coarsely and rather densely punctated. Abdomen is divided-foveated like that of porcatus, the foveae smooth at bottom. L. 2.5 mm.

In the ♂ the fore-margin of clypeus is at middle dentiform; middle- and hind-tibiae beneath the middle on inner side with a small tooth, and last ventral joint of abdomen at tip emarginate.

Local and as a whole rare in this country, but occasionally numerous in decaying compost. Middle and South Europe.

4. M. tesserula Curt.

4. M. tesserula Curt.

(Curtis Brit. Entom. V, 204; Erichs. Gen. Spec. Staph. 913; Kraatz Ins. D. II, 1055; Thoms. Skand. Col. IV, 196; Rey Brévip. 1883, 170; Janglb. Käf. M. II, 770. - staphylinoides Gyllh. Ins. Suec. II, 213).

Black or brown, somewhat glistening, elytral sides reddish-brown, antennal base, maxillary palpi, and legs brownish-red.

Smaller than the preceding species and (accd. to Janglb.) particularly distinguished by, that elytra at intervals between the ribs are impunctated. The head posteriorly with two bosses, separated by a middle-groove, elytra between the suture and humeral rib with two robust dorsal ribs; on the fourth free dorsal joint of abdomen the foveae are indistinct. L. 1.5 mm.

Distributed in Middle and North Europe; found in Skaane (Thoms.), but heretofore not in this country.

I N D E X

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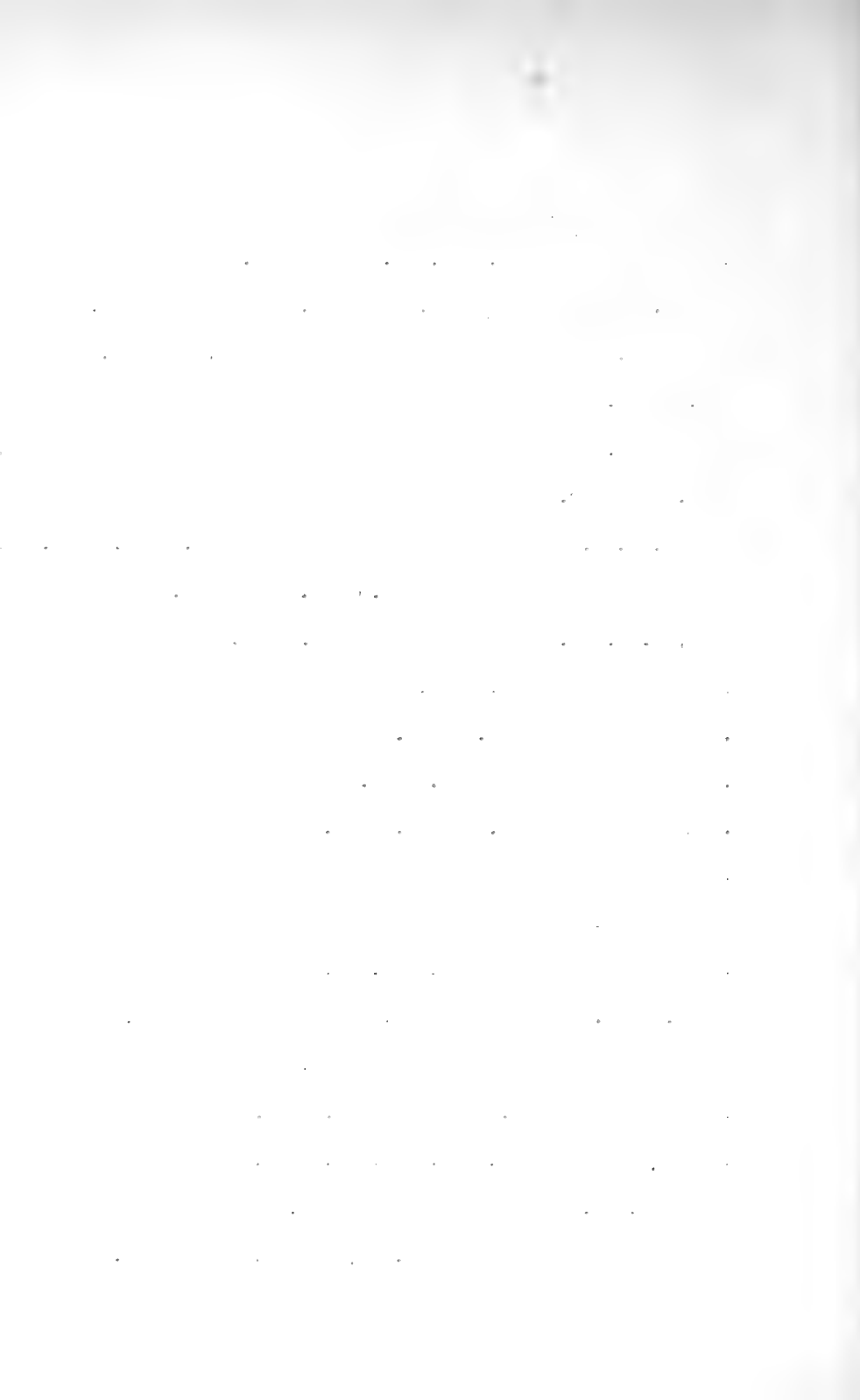
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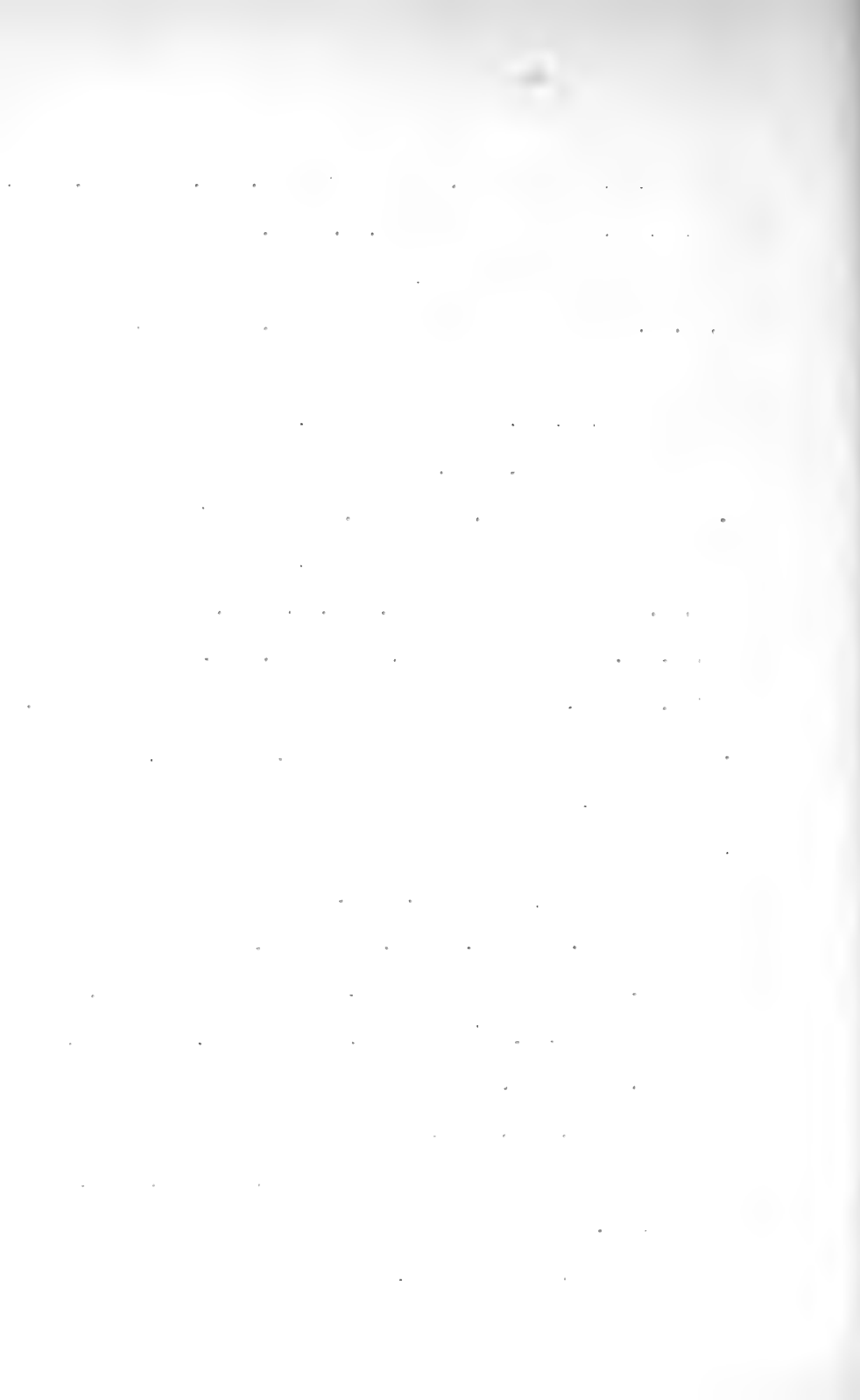
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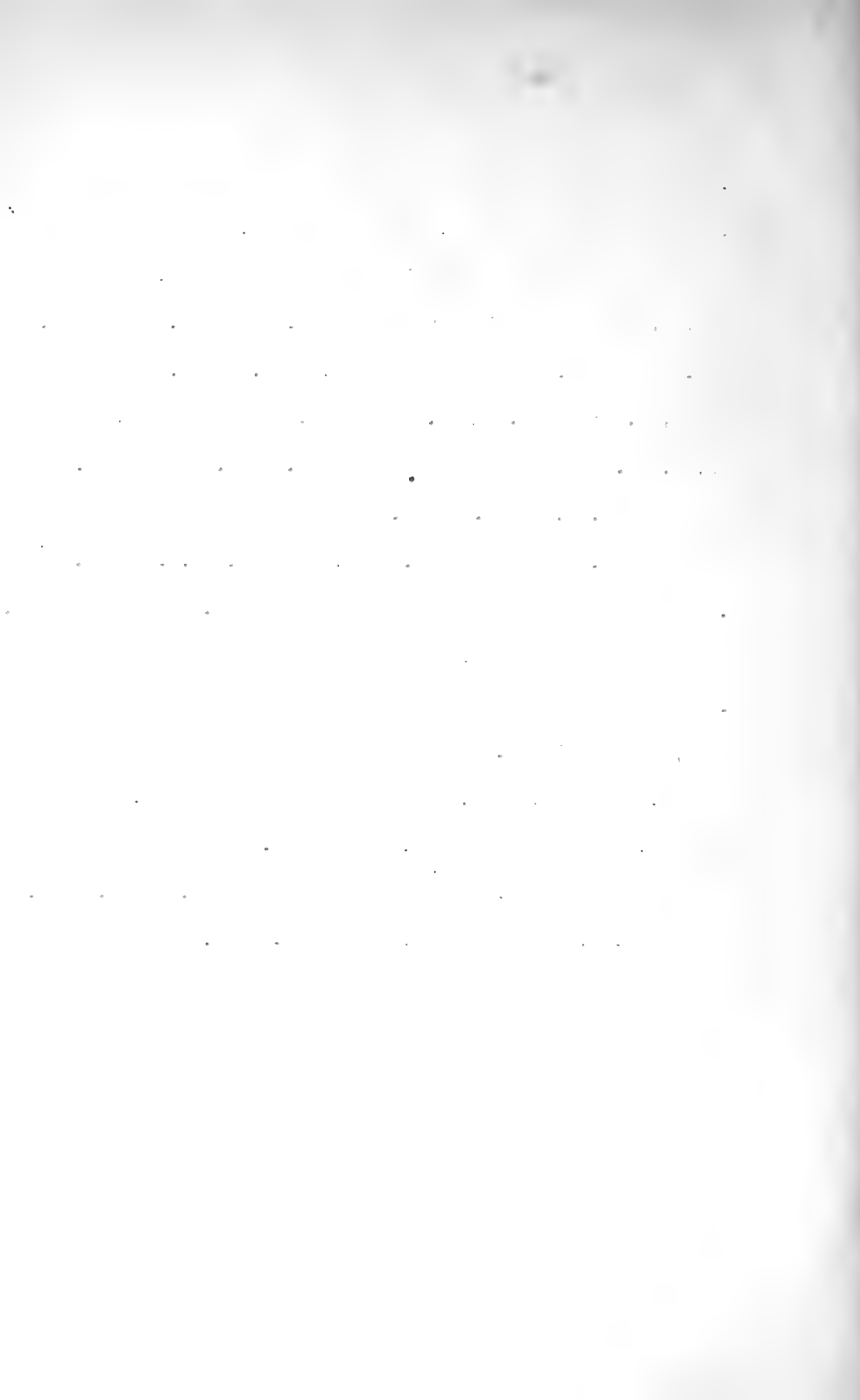
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-From Corrections and Additions.

Page 15.-In the generic key the couplet 15 should exchange place with couplet 12, inasmuch as in the two species of genus Amarochara the abdomen has an uneven number of transversally grooved dorsal segments, three in the one, and four in the other (see specific key S. 82). Consequently the key from couplet 12 to the end must read as follows:

12. First antennal joint obliquely grooved or incurved above for reception of the second joint, base of second joint curved; antennae very robust..... 15. Amarochara Thoms.
 - First joint of the antennae normal, without groove..... 13.
13. First three free dorsal segments of abdomen depressed at base..14.
 - First four free dorsal segments of abdomen depressed at base...16.
14. Temples and genae margined.....15.
 - Temples and genae not margined. Body very slender.: 12. Chilopora Kr.
15. Tongue long and narrow (Fig. 24), antennae rather slender. (Abdomen in our species polished, with isolated and fine punctation.).....11. Ocalea Br.
 - Tongue short. Antennae from the fifth joint robust. Abdomen very densely punctated and dully glistening. Head posteriorly rather feebly constricted..... 13. Ityocara Thoms.
16. Temples and genae margined. Mesosternum finely carinated at middle line. Forebody densely and often robustly punctated.:16..Ilyobates Kr.
 - Temples and genae not margined. Mesosternum without carina. Forebody finely punctated.....14. Calodera Mannh.







